



Successfully Asthma Controlled of 9 Patients Directed Experience in Community, Surat Thani, Thailand

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Abstract

This qualitative study was an inquiry with the informants who had direct experience. The objective of this study was to examine individual asthma control. The research question was, “What is the experience in asthma control of the patients in community, Surat Thani Province?” Nine informants were purposively selected from 40 asthmatic patients in Surat Thani Province who volunteered to participate in this research project. The inclusion criteria were having been diagnosed by physician as asthmatic for at least 1 year, aged 18 years and older, able to communicate normally, and having controlled disease. In-depth interview was conducted using structured interview guide based on the health literacy conceptual framework [8, 9, 14]. After data saturation, audio tapes were transcribed, and transcriptions were arranged and categorized. The 4 themes comprised, including the meaning of asthma, the value of asthma control, the dimensions of asthma control, factors influencing the success in asthma control, and aspects of asthmatic health literacy.

Keywords: patients’ experience; asthma control; health literacy.

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1. Introduction

Asthma is a chronic disease of the airway that is sensitive to stimuli and frequent asthma attacks. It can cause the thickening of the airway wall sub-epithelial cell layers, which can result in permanent airway narrowing due to airway remodeling. Patients suffer from making an effort to breathe, which can affect the quality of life and sleep, as well as lead to mortality unless treated and managed properly. Asthma becomes more severe with age [10]. However, there are 250,000 premature deaths among asthmatic patients each year [24], with 80% of asthmatic patients dying from respiratory failure [25]. Asthma is the world's 22nd most burdensome disease [24]. According to global statistics, it was found that the prevalence of asthma was 18% [26]. It is estimated that the number of asthmatic patients will increase to 100 million in 2025 [10]. Worldwide, 235 million people are suffering from this disease and have poor well-being. From the survey of health of the world's population as reflected through disability-adjusted life years (DALYs), asthmatic persons had 15,300 DALYs [24]. Moreover, the impacts of asthma include economic burden, resource utilization, and both direct and indirect health care costs of approximately 1 million US dollars each year for the management of severe or uncontrolled asthma [26]. From the above phenomenon, it can be seen that asthma is a life-threatening disease because it is difficult to control and incurable. Asthma and its control are thus the focus by World Health Organization and Global Initiative for Asthma (GINA) that collaboratively proposed guideline for medication and the avoidance of risk factors [10, 25]. Nevertheless, the outcomes remain unsatisfactory [3, 6, 11].

1.1 Rationale

In Thailand, more than 1 million hospitalizations caused by asthma are reported yearly and the prevalence of asthma in adults ranges from 3-7% of the population [23] with approximately 1,000 deaths per year from asthma [19]. However, asthma organizations in Thailand highlight the importance of asthma control by proposing the guideline for medication and avoiding risk factors similar to World Health Organization and GINA [23]. In addition, evidence showed that the average annual costs of asthma treatment for adults in Phramongkutkiao Hospital were 33,024 baht per person, with the costs for uncontrolled asthma being higher than those for controlled asthma [22]. Health literacy is a pivotal factor of safety in health and life [25]. Previous studies revealed that health literacy contributed to decision-making in effectively applying knowledge to problem-solving [2, 3], self-care [4], and symptom management [16]. Numerical health literacy and understanding of practice were associated with knowledge of asthma and skill of using inhaler [1-3, 15,17] as well as a risk of hospitalization [20], allowing asthmatic patients to have better health status (Shone and his colleagues 2009). Patients with moderate to severe asthma can control their symptoms and have improved FEV1 [1, 3], reduce the use of steroid drugs [2, 3, 4], experience fewer night-time asthma attacks [13], have less visit to emergency room [5, 7], and decreased hospital admission [7]. However, the dimensions of asthmatic health literacy specific to asthma control in community remain unclearly explored. Especially among patients with asthma in community in Thailand were be investigated their experience of successful asthma control. This study was a qualitative inquiry of the experience of successful asthma control in each person in the community in Surat Thani Province that integrated the health literacy conceptual framework [8, 9, 14].

1.2 Research Question

What is the experience in asthma control of patients in the community, Surat Thani Province?

1.3 Research Objective

To know the experience in asthma control of patients in the community, Surat Thani Province.

2. Materials and research methodology

After receiving approval from the Human Research Ethics Committee, Faculty of Medicine, Khon Kaen University for conducting a study in Surat Thani Province based on the inclusion criteria and exclusion criteria. The inclusion criteria were having been diagnosed by physician as asthmatic for at least 1-year, Thai nationality, residing in the area for at least 1 year, any gender, aged 18 years and older, having normal hearing ability, able to communicate in Thai language, being informed of study details, and willing to participate. The exclusion criteria were being asthmatic patients during pregnancy or having undergone surgery, or having conditions that cause inability to participate. The researcher sent an official letter from the Department of Community Medicine, Faculty of Medicine, Khon Kaen University to request permission to access data of asthmatic patients under the responsibility of health care facilities in the selected area. When receiving the list of asthmatic patients who met the criteria, the researcher coordinated with the health care facilities in the area that had been purposively selected. Patients on the name list were invited to a meeting on the day of their routine follow-up appointment to give a detailed description of the research, including objective, benefits from research, process, rights and privacy, and confidentiality. The subjects had freedom in deciding to sign the consent or withdraw from the research any time in order to ensure their willingness to participate in the study on a voluntary basis. The researcher conducted in-depth interview by herself using audio recorder and field notes.

2.1 Data Collection

In this study, the researcher used structured in-depth interview guide based on the health literacy conceptual framework of [8, 9, 14]. The main question was “What is experience in asthma control of asthmatic patients, and how does it occur?” The specific questions were “How can asthma be controlled?” “What is the knowledge necessary to asthma control and how to obtain it?” “What are practices to successfully control asthma?” and “What else can lead to successful asthma control and how?” After data saturation, audio tapes were transcribed. Data were analyzed by the researcher herself using content analysis and thematic analysis [21]. Data were categorized based on connections from interpretation and conclusions. They were made to describe the meaning and dimensions of experience from the perspective of asthmatic patients who had the insightful under the diversity of social and cultural contexts. Data analysis and the examination of trustworthiness were performed simultaneously both during and after data collection [18]. Data were categorized based on the time of collection in chronological order from the beginning to the end of qualitative data collection, clearly identified with date and time. This process was consistently conducted. The codes were used as reference to determine which points could be drawn from the collected data in relation to experience for patients with asthma. The reading or listening with contemplation were kept in mind the research questions and objectives. Data were dissected and

understood several times, as well as repeatedly examined if the informant's meaning was not clear. Then, themes that were interesting or had consistent meaning among asthmatic patients were drawn, categorized, and assigned with codes to identify the preliminary meaning of the data.

2.3 Human Research Ethics

This study was approved by the Human Research Ethics Committee, Faculty of Medicine, Khon Kaen University, and Project Number HE611158. The subjects agreed to participate in the research after the researcher informed them about the details of the study. There were including research objectives, benefits from research, processes, rights and privacy, and confidentiality. They had freedom in deciding to sign the consent to participate or withdraw from the study at any time. They were treated equally. Data were analyzed and presented as a whole to protect the subjects' confidentiality, without disclosure or identification of subjects in any case. However, demographic data such as gender and age were presented in research reports. There was no individual comparison. Data in the audio recording and notes were destroyed when the study was completed.

3. Results

From the qualitative study on patients' experience of asthma control in community, Surat Thani Province, results were as follows:

3.1 Demographic characteristics

It was found that, of the nine subjects with controlled asthma, three were male and six were female. The majority of them were in the age range of 29-39 years (33.3%) followed by an equal percentage of 18-28 years and 51-59 years (22.2% each). Most of their duration since asthma diagnosis was 6-10 years (44.4%). Over the past four weeks, all of the subjects had controlled their asthma with the score of 19-22 assessed through limitations in activities of daily living, dyspnea, and symptoms during night-time, use of emergency asthma inhaler, and self-assessment of one's ability to control asthma. Of all subjects, five of them had a score of 22 (55.6%) as illustrated in Table 1.

Table 1: Demographic Characteristics of Nine Subjects

Demographic Characteristics	Number	Percentage
Gender		
Male	3	33.3
Female	6	66.7
Age		
18-28 years	2	22.2
29-39 years	3	33.3
40-50 years	1	11.1
51-59 years	2	22.2
60-69 years	1	11.1
70 years and over	0	0
Duration Since Asthma Diagnosis		
1-5 years	2	22.2
6-10 years	4	44.4
More than 10 years	3	33.3
Current asthma condition in the past 4 weeks		
No limitation in activities of daily living	7	77.8
No dyspnea	7	77.8
No night-time symptoms	6	66.7
No use of emergency asthma inhaler	7	77.8
Ability to control asthma	7	77.8
Level of Asthma Control (scores of 19/25 points or higher indicate ability to control asthma)		
19 points	1	11.1
20 points	2	22.2
21 points	1	11.1
22 points	5	55.6

3.2 *The patients' experience in asthma control*

In this study, four findings were found regarding patients' experience in community in Surat Thani Province, including the meaning of asthma, the value of asthma control, the dimensions of asthma control, and factors influencing the success in asthma control as shown in Table 2. The details are described as follows:

The meaning of asthma

The subjects defined their asthma as a disease which, by nature, was incurable and asthma attacks could occur easily, but could be safely controlled. Examples are:

“Felt uncomfortable, couldn't breathe, shaking, and had a foggy brain.

“It is a disease that cannot be cured. Asthma attacks occur easily. It is difficult to treat.”

“If we can control the symptoms, it will be safer.”

The value of asthma control

From the in-depth interview, the subjects recognized the value of asthma control because they were aware of the

harms from an unwanted, near-death and life-threatening experience. Also, asthma control brought worthwhile outcomes. They stated:

“When the symptoms occurred, I was very afraid of dying. I don’t want these symptoms to occur again. I want to be cured and get better. I don’t want to die.”

“Before this, I had frequent asthma attacks. I don’t have these attacks at night any more, not for these past two months. Now I can play with my friends. I don’t get asthma attacks even when I laugh a lot. I can work normally.”

“I am happy that I don’t get much asthma attack. I am less allergic and have better health. I can work normally but I have to be careful not to get tired.”

Dimensions of asthma control

According to the in-depth interview, the subjects revealed five dimensions of asthma control as follows:

Health promotion included taking herbs to prevent colds and allergy, practicing regular exercise that did not cause asthma, and practicing exercise that could strengthen the lungs, as shown through the following excerpts:

“Take boiled herbs regularly to prevent colds and allergy.” “Exercise regularly, any kind that does not cause asthma attacks, such as calisthenics exercise, walking, and yoga.”

“Swimming can exercise the lungs and make them stronger.” “Do yoga to practice breathing and it is not very vigorous.”

Prevention and precaution against asthma attacks were performed by preventing and avoiding allergens, as reflected through the following accounts:

“I avoid the thing that causes my asthma. I am allergic to perfume.” *Proper drug treatment* was conducted by using inhalers correctly to control the symptoms during asthma attacks, as presented through the excerpts as follows:

“Use 2 kind of inhalers, one for controlling the symptoms and the other for asthma attacks.” “Shake the inhaler, open the mouth, place the mouthpiece in the mouth, press the inhaler 2 times, close the mouth, inhale deeply, and remove the mouthpiece from the mouth.”

Lung restoration was performed by practicing breathing and exercise to restore the lungs using methods as follows:

“Nurses taught me to practice breathing to exercise the lungs by breathing in with the nose deeply, hold the breath for a while, and breathe out slowly.” “Do yoga as breathing exercise to restore the lungs” *Management of asthma attacks* was carried out by taking action immediately based on the practice emphasized by the nurses and

the received document. The management was done by using steroid inhaler and going to the hospital immediately if the symptoms did not improve as described below. "At night I often have asthma attacks. Once that happens, I use the inhaler immediately. After using it for three times, if the symptoms do not improve, I will rush to the emergency room." "I have a steroid spray right over my headboard. I never do without it."

Factors influencing the success in asthma control

From this qualitative study, it was found that the factors that influenced successful asthma control among the subjects included sources of knowledge and practice, communication and interaction, support sources, and asthmatic health literacy. The details are described as follows:

Sources of knowledge and practice was shown that health professionals, such as physicians, nurses, and pharmacists, were sources of knowledge and practice for asthma control of the patients, as reflected through the following excerpts:

"Doctors prescribed two medicines and told me to avoid the allergens that cause sneezing, coughing, stuffy nose, or rashes." "The pharmacist teaches me how to use the inhaler every time I come for the medication, and shows me how to use it before I go home." "Nurses taught me to practice breathing to exercise the lungs."

Communication and interaction were revealed that communication and interaction were important to successful asthma control, including reading health information documents such as brochures, transfer of information and teaching, and sharing and exchanging knowledge and practice as shown below:

"Read the brochures provided by the nurses." "The nurses taught how to breathe to exercise the lungs." "The pharmacist teaches me how to use the inhaler each time I come to get the medication, and shows me how to use it before I go home." "I talk with and ask others, mostly my fellow patients." *Support sources* were utilized for asthma control in case of asthma attacks and emergency. These support sources included emergency medical assistance numbers in Thailand or the organizations that could provide timely assistance and were close to their homes, as shown in the following information:

"Call 1669. Sometimes I call the Sub-district Administrative Organization and they come."

Aspects of asthmatic health literacy

In the present study, the subjects reflected that the successful asthma control that led to higher numbers of asthmatic patients with controlled asthma required the patients to have health literacy in the following aspects: 1) know comprehensively which referred to knowing all, knowing what one should know, and knowing what to do; and 2) know clearly which referred to knowing the reasons and knowing why, as reflected through the following excerpts:

"Know it all. Must know everything. Know all that should be known." "Must know what to do to prevent asthma attacks and prevent frequent symptoms so that the disease won't be more severe."

“Know clearly about what it is and why we should do it.”

Table 2: Themes Related to Asthma Control among Patients in Community, Surat Thani Province

themes	Code categories
Meaning of asthma	Felt uncomfortable/ couldn't breathe/ shaking/ foggy brain/ cannot be cured/ attacks occur easily/ difficult to treat/
Value of asthma control	Very afraid of dying/ don't want to die don't want again/ want to be cured/ want get better/ Had frequent asthma attacks before/ be careful not to get tired/ can control the symptoms be safer Do not want to have these attacks at night anymore/ don't get asthma attacks can work normally/ happy/ better health/ can play
themes	Code categories
Dimensions of asthma control	
Health promotion	practice breathing/ not very vigorous/ can exercise the lungs/ make lung stronger/ any kind does not cause asthma attacks/ calisthenics exercise / herbs/ exercise regularly/ walking/ yoga/ swimming
Prevention and precaution against asthma attacks	Prevent/ avoid thing causes asthma
Proper drug treatment	Use 2 kind of inhalers/ for controlling the symptoms/ for asthma attacks/ Shake the inhaler, open the mouth, place the mouthpiece in the mouth, press the inhaler 2 times, close the mouth, inhale deeply, and remove the mouthpiece from the mouth
Lung restoration	Practice breathing to exercise the lungs/ breathing exercise to restore the lungs
Management of asthma attacks	When attack/ immediately/ rush/ emergency room/ steroid spray
Factors influencing the success in asthma control	
Sources of knowledge and practice	Doctors/ pharmacist/ Nurses/ fellow patients/ brochures/media
Communication and interaction	Prescribed/ told/ teaches/ provided/ read /talk/ ask
Support sources	emergency call 1669/ Sub-district Administrative Organization
Aspects of asthmatic health literacy	
characters	Know all/ know everything/ know should be known/ know what to do/ know clearly/ know what it is/ know why we should do it
attribution	Medicines/ avoid the allergens/ how to use the inhaler/ practice breathing/ exercise the lungs

4. Conclusion

Based on the direct experience of asthmatic persons provided specific dimensions of successful asthma control. Thus, it may be preliminary that, the 4 themes processes can promote asthma control.

5. Limitation and discussion

This qualitative study was conducted in a small sample group, in one area. The results of the study demonstrated the success factor of controlling asthma. Although it was not able to refer to the asthma population in Sarat Thani, it is an example of a serious starting education in the future. Researchers believe that there are many asthmatic patients who can control asthma. The future studies should extend to other areas in Surat Thani. Likely to get a variety of information, this was led to a clearer analysis of the factors of asthma control. I will be remembering to develop a plan to increase knowledge in the control of asthma in patients with efficiency and effectiveness.

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