Outcomes of Peer Support to People Suffering from Long-term Illnesses: A Descriptive Literature Review

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The purpose of this thesis was to describe the outcomes of peer support to people suffering from long-term illnesses. The aim of the work is to use the knowledge gathered from the databases to suggest how the information gained about the effects of peer support could be applied when developing ways to increase the life quality of patients suffering from long-term illnesses.

The thesis was executed using descriptive literature review as a method. 11 academic articles were chosen as data and they were analyzed using inductive content analysis. The study question was: "What kinds of outcomes does peer support have to people suffering from long-term illnesses?"

The results of the thesis illustrate the outcomes of peer support to people suffering from long-term illnesses. Peer support had different positive outcomes for the people. After grouping, three main categories and a few subcategories had been formed. They answered the study question. The main categories were: social benefits, informational benefits and physical benefits.

Health care staff can use the results of the thesis when caring for patients with long-term illnesses. They can also be used by patients and their family members.

Key words	Long-term illness, peer support

Kirjoittaja	Saana Peurasaari
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Tämän opinnäytetyön tarkoituksena oli kuvata vertaistuen vaikutuksia pitkäaikaissairaiden potilaiden elämään. Tavoitteena oli miettiä, miten tuotettua tietoa voisi käyttää pitkäaikaissairaiden potilaiden elämänlaadun parantamiseen.

Opinnäytetyö toteutettiin kuvailevana kirjallisuuskatsauksena. Opinnäytetyön tutkimusaineistoksi valittiin 11 tieteellistä tutkimusartikkelia, jotka analysoitiin käyttäen sisällön analyysia. Opinnäytetyössä haettiin vastausta yhteen tutkimuskysymykseen, joka oli: "Millaisia vaikutuksia vertaistuella on pitkäaikaissairaille ihmisille?"

Opinnäytetyön tulokset näyttävät vertaistuen vaikutukset pitkäaikaissairaille potilaille. Vertaistuella oli erilaisia positiivisia vaikutuksia potilaille. Ryhmittelyn tuloksena muodostui kolme eri pääluokkaa ja useampiin alaluokkiin, joista saatiin vastaukset tutkimuskysymyksiin. Yläluokat olivat: sosiaaliset hyödyt, tiedolliset hyödyt ja fyysiset hyödyt.

Opinnäytetyön tuloksia voi hyödyntää hoitohenkilökunta pitkäaikaissairaiden potilaiden hoidossa. Myös potilaat ja heidän omaisensa voivat hyötyä tuloksista.

Avainsanat	Pitkäaikaissairaus, vertaistuki

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1   Introduction

A long-term illness called sick building syndrome (SBS) is a condition that affects lots of people around the world and is a remarkable phenomenon on many levels. Different sensitivity-related illnesses have become more common in many countries during recent years. In Asia, for example, problems with indoor air have become a major health issue and researches from different parts of the continent, such as China and Japan, have confirmed citizens suffering symptoms related to respiratory organs or the nervous system. (Genuis, 2010: 6047-6061; Takaoka et al., 2015: 165-77) In one study, it was reported in population-based questionnaire surveys that 7.5 % of Finns and 4.8 % of Swedes had intolerance to certain buildings. (Karvala et al., 2018: 220-228) It is also estimated that there are problems with the indoor air in most public buildings in Finland. For schools and daycare centers, the percentage is approximately 12-18% and for hospitals and other cares institutions 20-26%. (Ympäristöministeriö 2016: 5)

The phenomenon is complex and people suffering from SBS-related problems have a great need for knowledge and support as the condition affects their everyday life widely. (Lappalainen et al., 2018) It is known that in Finland, there are large networks and peer support groups in the Internet consisting of people affected by poor quality indoor air and symptoms related to it. Researchers have not studied these support groups, so consequently there are no published studies about peer support for people suffering from SBS. (Homepakolaiset ry) However, the benefit of peer support groups for patients suffering from other conditions has been proven by many researches. The positive outcomes for the patients include empowerment, gaining a larger social network, better self-esteem, increased life satisfaction and life quality, feeling more hopeful, emotional reassurance and lowered stress. In addition, many of the participants were also interested in getting answers to practical questions in the peer support groups instead of just wanting to talk about their feelings. (Miyamoto et al., 2012: 22-29; Fisher et al., 2015: 2-8; Murphy et al., 2016: 547-555)

Since there is no research about what kind of effects peer support has on people living with SBS but a lot of studies about the effects of peer support to people living with other

long-term illnesses, the purpose of this thesis is to describe the outcomes of peer support to people suffering from long-term illnesses. The aim of this thesis is to use the knowledge gathered from the databases to suggest how the information gained about the effects of peer support could be applied when developing ways to increase the life quality of patients suffering from long-term illnesses. The study question is: "What kinds of outcomes does peer support have to people suffering from long-term illnesses?" This thesis is connected to the collaboration between Metropolia and Homepakolaiset ry.

2 Background and key concepts

When studying previous literature, it became clear that there is need for further knowledge regarding to life with sick building syndrome as most studies are about prevalence of the condition and the symptoms of it. It also became apparent that there is no research about how peer-support affects those suffering from sick building syndrome or what their experiences are with peer support. There are, however, studies about the effects of peer support to people suffering from other long-term illnesses. The key concepts of the thesis are: peer support and long-term illness.

2.1 Peer support

The definition of peer support is that it provides nonprofessional advice and assistance for people coming from similar circumstances or having similar conditions. Peer support groups are beneficial for people wanting to share and gather their experiences, knowledge, coping strategies and understanding of the situation or illness. (Tracy & Wallace, 2016: 143-154.) In one literature review, it was concluded that more than half of the researches reported significant effects of peer support on the subjects. (Fisher et al., 2017: 4)

People in online peer support groups discuss via digital platform, such as Facebook or a forum, thus not requiring physical attendance. This also allows some people to follow interesting topics without having to engage in conversation or share their own experiences. (Gupta & Schapira, 2018) It was found out that people who do not just read the discussions but also contribute to them gained more benefits than those who just

read them. Both groups, however, gained at least some benefits. The knowledge gained from peer support groups can be beneficial for individuals and some people join peer supports groups wanting to find answers to their questions. (Miyamoto et al., 2012: 22-29; Fisher et al., 2015: 2-8)

Peer support can also be cost saving. One study found out that a patient's overall total health care cost was lower during intervention if he received peer support. It was hypothesized that this occurred because the patients who were associated with peer support monitored their disease more closely and managed it better than those who were not associated with peer support. This could lead to fewer patients having to be hospitalized. (Wingate et al., 2017: 328)

2.2   Long-term illness and sick building syndrome

Long-term illness can be defined as "conditions that last a year or more and require ongoing medical attention and/or limit activities of daily living". (Warshaw, 2006: 5-10) Examples of long-term illnesses are heart diseases, epilepsy, diabetes mellitus and chronic lung diseases. Most people with long-term illnesses need help for managing their daily life as the disease affects so many levels of their life. There is a positive relationship between social support and the patient's self-management of the disease. (Rosland et al., 2013: 119-131; Gallant, 2003: 130-195) It is also known that patients suffering from long-term illnesses have a need for knowledge and understanding about their conditions since those are important for their recovery and self-care. (Nunstedt, et al., 2017: 43-53)

There is a proven correlation between having chronic diseases and a lower health-related self-reported life quality. Patients also experience psychological stress related to their health. (Keles et al., 2007: 6-11; Jayasinghe et al., 2009) Sometimes patients with long-term illnesses also experience loss of self, as they have to adjust to living with their disease, losing the old images they had of themselves. It was also found by interviewing patients that they expressed concern about the person they saw themselves becoming. The patients felt that they were useless and a burden to their loved ones. They also expressed sorrow for having to leave their jobs or hobbies after becoming ill. (Charmaz, 1983:168-195)

Sick building syndrome is an example of a long-term illness and it refers to people experiencing discomfort and physical symptoms when visiting specific buildings. (Sumedha, 2008: 61-64) The symptoms can include i.e. runny nose, coughing, dizziness, headache, sore throat and unusual fatigue. (Azuma et al., 2017: 38) It is typical for those suffering from sick building syndrome to have the symptoms start when being in a building that has poor indoor air and then have them stop or improve when exiting the building. (Nduka et al., 2018: 1340-1346) Because of this tendency, people affected by the condition tend to avoid buildings that cause them to have symptoms, which may create an experience of a disability. Those with frequent exposure to symptoms caused by sick buildings are more likely to be emotionally and behaviorally affected than those who experience symptoms less frequently. (Karvala et al., 2018: 220-228)

Sick building syndrome is an increasing concern in Asia, too. Students from four Japanese junior high schools had mucosal, general and skin symptoms and these symptoms were linked to mold problems, dampness of air and water damage in their homes and schools and in some cases, building materials or chemicals affected the prevalence of the symptoms as well. It is estimated that the phenomenon at the whole could have significant effects on the students' education and on the public health of the population. (Takaoka et al., 2015: 165-77; Apter et al., 1994: 277-288; Saijo et al., 2011: 253-263)

The problem is also present at workplaces. It was found out that in three hospitals, the prevalence of sick building syndrome was 86,4%. (Vafaeenasab et al., 2015: 247-253) The phenomenon is a serious challenge at institutions because it could lead to employees being absent from work and lowered productivity among workers. (Singh, 2005: 229-234) This might be a notable economical stressor for nations with a lot of employees suffering from the syndrome. It may also be an ethical dilemma for employers and employees alike.

Many of those who suffer from symptoms related to sick building syndrome find that they are denied health care and because of the lack of biological facts, the legitimacy of the symptoms is controversial. (Dumit 2006: 577-590) Problems of that kind are common with people who suffer from functional somatic symptoms; a term that refers to medically unexplained symptoms in different body parts. (Eikelboom et al., 2016: 60-67) In other

words, health care professional and patients do not have a shared view of the patient's issue. Because of those difficulties, the relationship between the health professional and the patient can become strained. The patients may feel that the doctor is invalidating their experiences. That is why the patients usually move to online peer support groups to discuss their situations with other patients. They have more fluent dialogues about their situations in the groups and they feel that with health care professionals, it did not happen. (Murphy et al., 2016: 547-555)

3   Purpose, aim and the study question

The purpose of this thesis is to describe the outcomes of peer-support to people who suffer from long-term illnesses. The aim of this thesis is to use the knowledge gathered from the databases to suggest how the information gained about the effects of peer support could be applied when developing ways to increase the life quality of patients suffering from long-term illnesses.

The study question is: "What kinds of outcomes does peer support have to people suffering from long-term illnesses?"

4   Methods

4.1   Descriptive literature review

There are three different kinds of literature reviews: descriptive, systematical and meta analysis. Descriptive literature review is the method that is used in this thesis work. It is a method of research consisting of gathering, describing and examining published data. As a research method, the core of descriptive literature review is based on the data and the understanding of a phenomenon or phenomena that are being studied. Thus, it is content-driven and aims to describe a phenomenon. The research question and determined criteria dictate what kind of material will be selected. Ethical questions are linked to the formation of the research question and are complied with research ethics during the entire process of the review. Validity questions are formed with the research question and justification of the chosen studies. The process of descriptive literature review includes comparing and analyzing different articles and studies and drawing

overall conclusions about the material, thus contributing something new instead of just summarizing or reporting the old material. When analyzing the material, a frequency analysis is carried out about various attributes of the material, such as authors, research methods or data collection techniques. These factors provide a database, which is then studied in order to identify any patterns or trends. (Kangasniemi et al., 2013: 291-301; Paré et al., 2015: 183-199; Salminen, 2011)

Descriptive literature review can be divided in narrative literature review and integrative literature review. When using narrative literature review, the author is aspiring to create an extensive view of the phenomenon or to describe the history and development of the topic. It can be executed in three different ways: commenting, editorial and overview. Of these, overview is the broadest method and editorial is the most limited. During the process, discontinuous knowledge is arranged in a reasonable and logical timeline. Narrative literature review is a form of literature review that is aimed to be easy to read in its final form. It helps up-to-date grouping of data but does not offer an actual analytical result. (Salminen, 2011)

In general, descriptive literature review four different phases. First, the research question is determined. In the second stage, data is gathered according to the research question, search terms and search criteria, excluding irrelevant articles and including relevant ones. In the third stage, the articles chosen to be included in the literature review are read thoroughly and the relevant information is chosen from the material and then presented and described in the literature review. Again the irrelevant articles will be excluded. This relevant information can be displayed in a form of a framework, for example, to help to organize it for analytical purposes. In the last phase, this information is analyzed again in a form of a framework, using inductive content analysis and finally, conclusions are made about the findings. (Kangasniemi et al., 2013: 291-301; Cronin et al., 2008: 38-43)

4.2   Data search and selection

The search process and the databases used are presented in the following tables as well as the including and excluding criteria. The search terms, the number of hits and the number of articles selected are also documented. The articles accepted can be found summarized in Appendix 1.

Academic articles were the only acceptable sources for the literature review so no other kind of media or resources was used as references. The search for academic articles was conducted using databases Cinahl, PubMed and Medline. Search terms that were used were: "Peer support AND long-term illness", "Peer support AND chronic disease", "Peer support AND chronically ill", "Peer support AND chronic illness", "Peer support AND chronic condition", "Peer support AND long-term condition", "Peer intervention AND chronic disease", "Peer intervention AND chronic condition".

Table 1. Including and excluding criteria

Including criteria	Excluding criteria
Answers to the study question	Not answering to the study question
Publication year between 2005-2019	Published before year 2005
Full text available	Full text not available
The language of the publication is English	The language of the publication is not English
Nursing science or health science article	Not a nursing science or health science article
Academic article	Not an academic article

Table 2. Systematic search

Database and search terms	Limitations and filters	All results	Excluded based on the title	Excluded based on the abstract	Excluded based on the text	Accepted
Cinahl						
Peer support AND long-term illness	Publication year 2005-2019 English Full text available	3	2	1	0	0
Peer support AND chronic disease	Publication year 2005-2019 English	37	27	4	3	3

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	Full text available					
Peer support AND chronically ill	Publication year 2005-2019 English Full text available	3	3	0	0	0
Peer support AND chronic illness	Publication year 2005-2019 English Full text available	17	13	2	0	2
Peer support AND chronic condition	Publication year 2005-2019 English Full text available	9	6	1	0	2
Peer support AND long-term condition	Publication year 2005-2019 English Full text available	5	4	0	0	1
Peer intervention AND chronic disease	Publication year 2005-2019 English Full text available	13	12	0	0	1
Peer intervention AND chronic condition	Publication year 2005-2019 English Full text available	6	6	0	0	0
Medline						
Peer support AND long-term illness	Publication year 2005-2019 English Full text available	0	0	0	0	0

Search terms	Criteria					
Peer support AND chronic disease	Publication year 2005-2019 English Full text available	40	36	1	2	1
Peer support AND chronically ill	Publication year 2005-2019 English Full text available	0	0	0	0	0
Peer support AND chronic illness	Publication year 2005-2019 English Full text available	10	9	0	1	0
Peer support AND chronic condition	Publication year 2005-2019 English Full text available	3	3	0	0	0
Peer support AND long-term condition	Publication year 2005-2019 English Full text available	1	0	0	1	0
PubMed						
Peer support AND long-term illness	Publication year 2005-2019 English Full text available	0	0	0	0	0
Peer support AND chronic disease	Publication year 2005-2019 English Full text available	40	35	3	1	1
Accepted in total						11

4.3 Data analysis

Content analysis helps to analyze qualitative data effectively as the objective is to systematically transform a large amount of data into an organized summary of the key

findings and it is thus used for building a model describing a phenomenon. The outcomes of content analysis are categories or concepts describing this phenomenon. It is a systematic and objective research method. Content analysis can be divided in two approaches: inductive content analysis and deductive content analysis. Inductive content analysis is chosen when there are no or not enough previous studies of the particular topic or the knowledge is fragmented. Thus, the concepts come from the data. The data that was collected for this thesis work was analyzed using inductive content analysis. (Erlingsson & Brysiewicz, 2017: 93-99; Elo & Kyngäs, 2007: 107-115)

Inductive content analysis has three phases and they are preparation, organizing and reporting. While there is no standard set of rules for content analysis, the core feature of it is to organize and classify data into smaller categories. The study question and aim should be kept in mind during the whole process of inductive content analysis. The preparation phase starts by picking a unit of analysis, which can be a word or a theme. Then meaning units are drawn, which is carried out by preserving the message of the original text but shortening the original expression. The meaning units should not be too short, however, since it could lead to fragmentation. Meaning units that are too large lead to numerous meanings that will be lost in condensation. (Erlingsson & Brysiewicz, 2017: 93-99; Elo & Kyngäs, 2007: 107-115)

The next phase is organization. After formulating the meaning units, the researcher starts to develop codes that work as descripting labels for the condensed meaning units. Categories are created freely during this. With codes, it is easier to make connections between meaning units. After the coding, the categories are grouped in order under higher headings, the aim being the reduction of the number of categories and themes in order to organize the data further. The categories are created to help describe the phenomenon and they are named according to the words used in the content. (Erlingsson & Brysiewicz, 2017: 93-99; Elo & Kyngäs, 2007: 107-115)

The results of inductive content analysis are the described contents of the categories, these being the meanings of the categories. Subcategories describe the content of the categories. In the reporting phase, the researcher describes the process of inductive content analysis as well as the results. (Erlingsson & Brysiewicz, 2017: 93-99; Elo & Kyngäs, 2007: 107-115)

5   Results

The data of this thesis work consists of 10 international academic articles. The countries of origin are Belgium, Germany, Denmark, Australia, The United Kingdom, India and The United States. 18 original expressions were gathered from the articles as well as 19 reduced expressions. Eight subcategories and three main categories were identified after this. The main categories form the main content of this thesis work and provide the answer to the study question. The results are presented in more detail in the following chapters. In the figure below, the three main categories are illustrated.

Physical benefits

The outcomes of peer support to people suffering from long-term illnesses

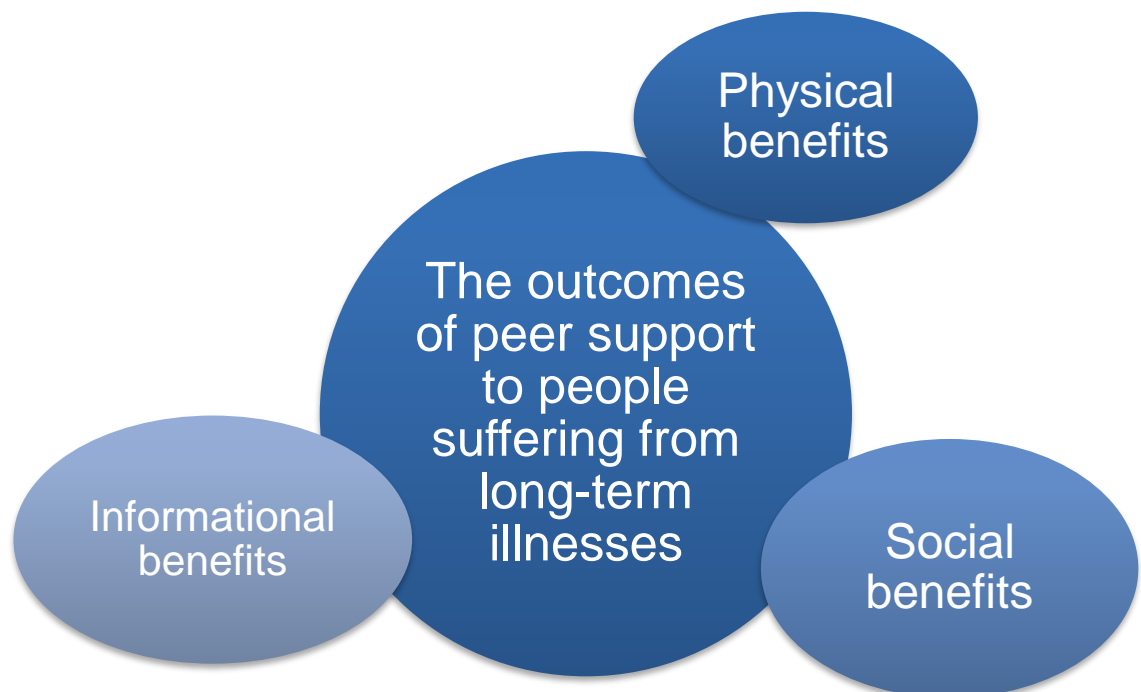Informational benefits

Social benefits

Figure 1. The main results
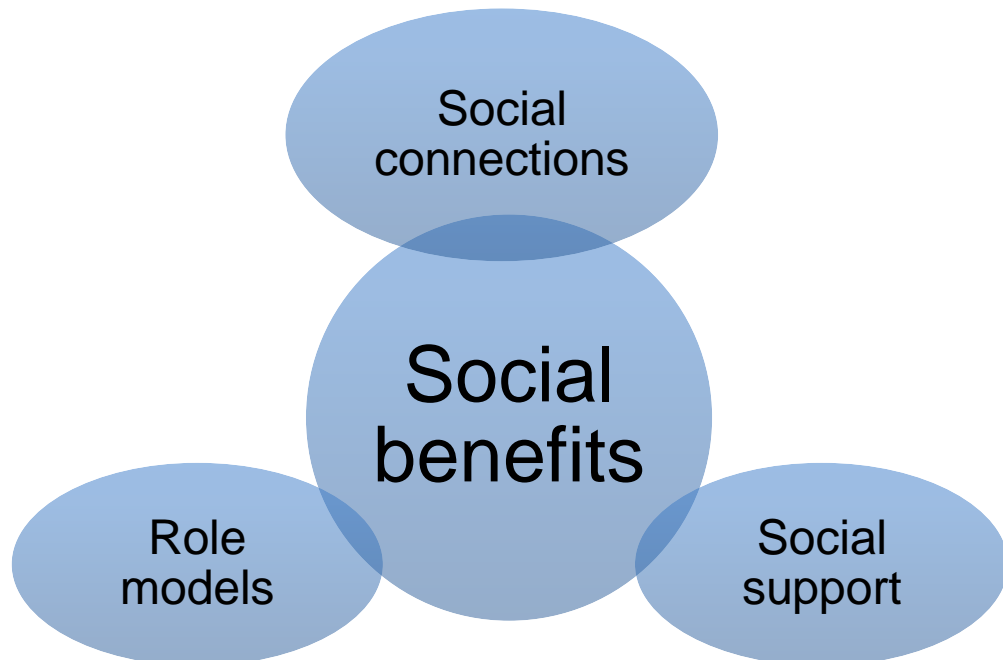
5.1 Social benefits from peer support

Figure 2. Social benefits

The analysis of the data revealed that patients with long-term illnesses gained social benefits from peer support, which was one of the main categories. These benefits included social connections, social support and role models. These were also the subcategories of "social benefits". A study (Oris et al., 2015: 107-119) suggested that adolescent patients who received peer support along with parental support experienced better psychological well being and functioning. These patients gave higher ratings to different factors in their lives, indicating better overall health. It was hypothesized by the researchers that adolescents might have easier time to go to their peers to get support when they are experiencing difficult times compared to going to their parents. Another study (Lewis, et al., 2016: 2541-2553) showed similar kinds of results. Adolescent patients showed enthusiasm from meeting others who were in the same situation and formed social connections with the other patients. They showed sings of personal growth during the period of receiving peer support. They also gained more self-confidence, resilience and independence.

In the studies, most patients found it important to see others with the same condition. They could share their feelings of living with the illness and imagine themselves in the peer supporters' situations in the future, which gave them hope and strength and created more positive future scenarios about a life with their disease. Many of them also found mentors or role models from peer supports who had been living with the illness for a longer time. They identified with their peers, as most of them had not known people with the same condition before participating in peer support meetings. They identified with one another and provided each other reassurance. The patients could bond over their experiences and share a mutual understanding about their feelings but also encourage each other to navigate life with the disease. They also gained more social connections and thus enlarged their social networks. Some of the original statements were: "Peer support as a source of social support", "Social connectedness between members" and "Understanding and identification". (Oris, et al., 2015: 107-119; Lewis, et al., 2016: 2541-2553; Hughes, et al., 2009: 396-406; Taylor, et al., 2016: 617-630; Ravert, et al., 2017: 217-222)

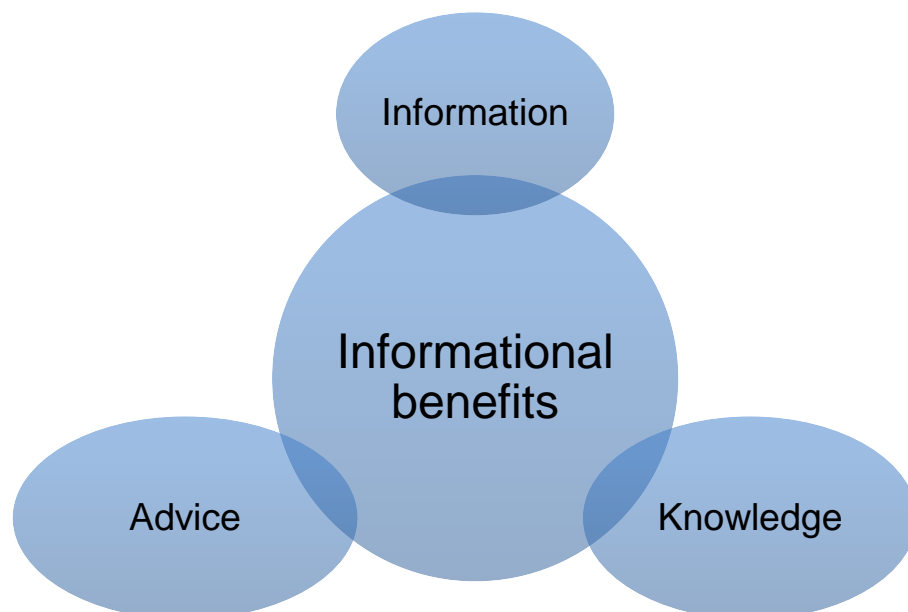5.2   Informational benefits from peer support

Figure 3. Informational benefits

The analysis of the data revealed that patients with long-term illnesses gained informational benefits from peer support. This was also one of the main categories. These benefits included knowledge, information and advice, which were also subcategories under "informational benefits". Most patients regarded it important to share knowledge about their illnesses with other people who were in the same situation. Some patients were even specifically looking for information and knowledge from peers with the same condition so that they could provide first-hand experiences for them, as they wanted to hear this from someone who had to actually deal with the condition in their day-to-day life. Some of that knowledge was the kind of that could not be learned from health care professionals but from other patients who had first-hand experience of the matter but these information types also completed each other. The patients advised each other on smaller and bigger things starting from day-to-day life with the illness to recommending good hospitals and treatments to manage the diseases. The opinions of peers could influence, for example, on patients' willingness to start treatment. In some cases, the patients also trusted each other's opinions more than those presented by health care professionals. (Hughes et al., 2009: 396-406; Armstrong & Powell, 2009: 313-320)

They also shared and discussed personal strategies about living with their conditions and gave each other tips and suggestions to make daily life easier. Patients found great support from these discussions and gained new ideas and perspectives on their conditions. Peer support groups also normalized living with diseases. These experiences were very important for most patients, especially for those who had only recently been diagnosed with the disease. Peers with the same conditions could thus provide them valuable first-hand knowledge and help them adjust to living with the condition as these peers told them how they had adjusted their mundane life, routines and activities to better cope with it. Patients also gained more knowledge about their health care and their rights as patients as a result of receiving peer support. The patients were empowered to demand better care if they felt it lacking or that they were treated poorly and it also gave them courage to speak more openly with their health care professionals. Some of the original statements were: "The increased knowledge about their health care", "Information by peers complements information provided by health care professionals"

and "Tips and suggestions from peers for managing their disease". (Hughes, et al, 2009: 396-406; Kirk & Milnes, 2016: 309-312; Stanhope & Helwood, 2013: 656-663; Armstrong & Powell, 2009: 313-320)

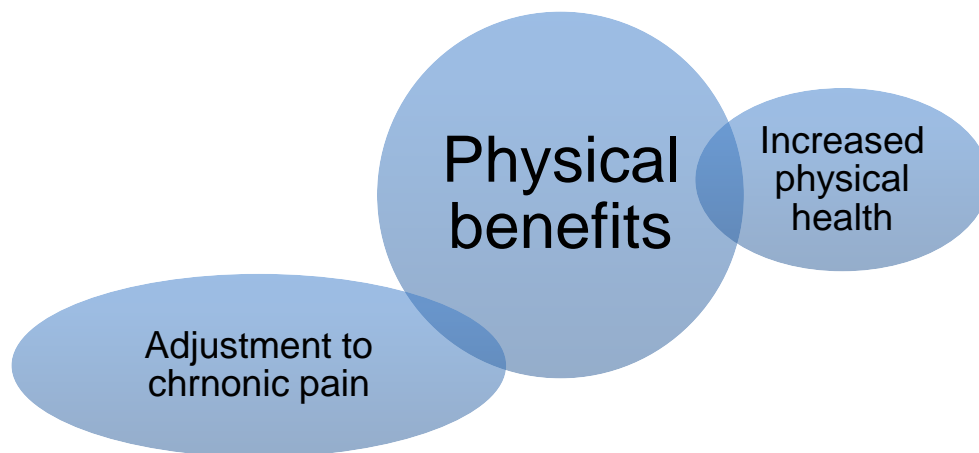## 5.3   Physical benefits from peer support

Figure 4. Physical benefits

The analysis of the data revealed that patients with long-term illnesses gained physical benefits from peer support, which was also one of the main categories. The patients showed increased physical health and adjustment to chronic pain as a result of peer support intervention. These were the subcategories under "physical benefits". Increased physical health was proved in two studies of patients with Diabetes Mellitus II who showed increased glycemic control. In two studies (Sreedevi et al., 2017: 10; Riddel et al., 2016: 864), peers who were educated about DM II provided one-on-one peer support to patients with the disease and they mentored the patients and assisted them with disease management and prevention in mundane life. The peer supporters also provided emotional and social support along ongoing flexible support. The meetings were heavily

focusing on diabetes self-care and management and implementing strategies in disease management, such as monitoring into daily life and goal setting.

The patients reported peer support as useful and showed a fall in total cholesterol as well as a decrease in blood pressure. They showed improvement in medication adherence and self-care, such as increased vegetable consumption, participation in exercise and measuring blood sugar. The patients also reported satisfaction with their health care team's support and its availability. They reported that their knowledge and understanding about diabetes increased and that they made changes related to their disease management after peer support meetings. Overall, the patients' health status increased as a result of peer support.

It also became apparent that the patients, who suffered from chronic pain, had their pain management improve when they received peer support from others in the same situation. This increased their physical comfort and brought acceptance to their body's situation. Some of the original statements were: "Promoting greater adjustment to living with chronic pain" and "Increased physical activity". (Finlay & Elander, 2016: 660-676)

6   Ethics and validity

An important part of a descriptive literature review is to assess the validity of the literature review. The ethics of the literature review have to be taken into account as well. Ethics are a vital part of any research and they are connected to the entire research process. Lack of ethics in research manifests itself as counterfeit or fictitious results, plagiarizing another researcher's results or lack of following responsible conduct of research. (Kylmä & Juvakka, 2007: 125-134; Coughlan et al., 2013; Kangasniemi et al., 2013: 291-301; Kankkunen et al., 2013)

When it comes to ethics, participants must agree voluntarily to take part in the research, the research must benefit the society and it has to be justified by previous studies. Needless suffering, bodily harm and death must be avoided and everyone participating in the research has the right to withdraw from it during any phase of the process. (Kylmä & Juvakka, 2007: 125-134; Kangasniemi et al., 2013: 291-301; Coughlan et al., 2013)

It is worth taken into account that because of the use of previous studies, the ethics of this literature review depend partially on the ethics of the researchers who conducted the studies. It is also permissible and legal to access and use these researches that have been used as sources of this thesis. The studies used as sources were selected according to certain criteria and they were all from reliable databases. All the sources and their contributors are credited accordingly. Changing or making up the results or the data would be ethically wrong. (Kylmä & Juvakka, 2007: 125-134; Kangasniemi et al., 2013: 291-301; Coughlan et al., 2013)

The use of original studies adds to the validity of this thesis. The researchers who conducted the studies were accountable for taking the necessary steps to fulfill the scientific criteria of a research, including asking for permission from the subjects and informing them about the research. The people managing the research must be scientifically competent. As this is a descriptive literature review, this process did not need to be repeated. (Kylmä & Juvakka, 2007: 125-134; Kangasniemi et al., 2013: 291-301; Coughlan et al., 2013)

When assessing the validity of the literature review, it must taken into account that in case of qualitative research, there is a risk of the researcher becoming convinced that the model they have created reflects reality. The researcher may also be convinced that their conclusions are right even though that may not be the case. This affects validity as well as the professionalism and publicity of the researchers who conducted the studies used as sources. The validity of this literature review is also affected by the fact that English is not the writer's first language. Plagiarizing someone else's work decreases validity as well. (Kankkunen & Vehviläinen-Julkunen, 2013; Coughlan et al., 2013; Kagasniemi et al., 2013: 291-301)

The validity of a literature review is also affected by the way the results are studied and concluded in the review and whether it is biased or not. Tendentious results weaken validity. The writer has to be able to rationalize how they came to their conclusions. Besides this, the literature review has to be written in a logical order that makes reading and understanding it easy and the language has to be articulate and grammatically correct. The use of jargon has to be avoided. The chapters need to be named accordingly and logically. The study question needs to be presented clearly and it has to have a theoretical justification and any effects caused by subjectivity need to be assessed and

recognized. (Coughlan et al., 2013; Kangasniemi et al., 2013: 291-301; Kankkunen et al., 2013)

7   Discussion

7.1   Examination of the results

The purpose of this thesis was to illustrate the outcomes of peer support to patients with long-term illnesses and it was fulfilled. The study question of this work was: "What kinds of outcomes does peer support have to people suffering from long-term illnesses?" It was answered in this work. The aim of this thesis was to suggest how the information gained about the effects of peer support could be applied when developing ways to increase the life quality of patients suffering from long-term illnesses. The aim was fulfilled.

According to this thesis, the outcomes of peer support for people suffering for long-term illnesses were positive. The studies that were the source for this thesis provided answers to the study question and there were no complications regarding to finding source material since there were a lot of studies about the topic. When it came to writing the literature review, there were no complications either or they were solved with mentoring by the teacher.

The results of this thesis mirror the results from earlier studies as their results included peer support providing social connections, information and increased of physical health to the patients. Five source studies mentioned new social contacts, role models and social support to the patients. Four source studies mentioned patients gaining information, advice and knowledge. Three studies mentioned increased physical health and adjustment to chronic pain. The results seem to conform the earlier studies about this topic.

I would say the results are mainly reliable since all the phases of the thesis have been documented and there was no biased agenda in the background to guide the interpretation. As a process, though, descriptive literature review was new to me and this might unintentionally influence to the analysis of the source material, as this was my first time using this method. The choice of method was successful, though, since this thesis

was written by a single person and a functional approach would have been nearly impossible to execute even though that might have provided new insights and viewpoints to the topic of the thesis. As a method of choice, descriptive literature review was easier to manage and execute and the source material was easier to manage and handle.

7.2   Practical implications

Health care professionals, patients with long-term illnesses and their families and friends as well as everyone else who is interested in the benefits of peer support concerning patients suffering from chronic conditions can use the results. The results present benefits that patients received after receiving peer support. The results were in line with earlier studies about peer support, which stated that outcomes of peer support were mostly beneficial and affected the patients positively.

Especially health care professionals might find the results helpful tool when supporting, caring and educating patients with long-term illnesses. They could use peer support as a method to help the patients adjust to living with a long-term illness, especially with those patients who have just been diagnosed. Peer support might be a beneficial tool for patient education as well if peer supporters work with health care professionals to make sure they are distributing evidence-based information to their peers. The patients themselves may also benefit from the results of this thesis work as they might encourage them to seek peer support.

Sick building syndrome is also a long-term illness and if the results of this thesis work are taken into account, the patients suffering from the condition may find peer support helpful and the results might apply to them as well. As there are only a few studies about the illness and none about the patients' experiences living with the condition, further studies could be conducted about this matter. It would also be interesting to have studies performed specifically about sick building syndrome patients' experiences with peer support since there are no studies about this specific even though an increasing part of the population have this condition,

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Appendix 1. Academic articles.

Author(s) [I] [SEP] Year [I] [SEP] The title of the study Country [I] [SEP] Publishing magazine	Purpose of the study	Target group/sample	Execution	Result (from the perspective of the research question)
Oris, L., Seiffe-Krenke, I., Moons, P., Goubert, L., Rassart, J., Goossens, E. & Luyckx, K. 2015. Parental and peer support in adolescents with a chronic condition: a typological approach and developmental implications.	In the studies, it was researched what are the outcomes of peer support and parental support for adolescents suffering from Diabetes Mellitus type 1 (DM1) and congenital heart diseases (CHD). The aims of the studies were to identify [I] [SEP] different	Study 1 sample: 228 early to mid- adolescents of whom 109 had DM1 and 119 were healthy controls. Study 2 sample: 429 patients diagnosed with CHD and who were mid- to late adolescents	Study 1 assessed indicators (e.g. body image, emotional health and superior adjustment) by having the participants fill out questionnaires that allowed them to rate different factors in their life (parental support, peer support, internalizing symptoms, glycemic control and well- being). There were four clusters: those with no support at all, those with	In both studies, adolescents who received [I] [SEP] both parental [I] [SEP] and peer [I] [SEP] support showed better psychological functioning (higher well- being and lower depressive symptoms). In study 1, adolescents who received parental support showed better well-being than those in the group that [I] [SEP] received [I] [SEP] peer support. In study 2, the result was the opposite with adolescents receiving [I] [SEP] only peer [I] [SEP] support having higher well-being than those with only

Belgium, Germany & Denmark Journal of Behavior Medicine (2016) 39: 107-119.	social support clusters and examine how the clusters were related to the psychological functioning of the patients.		peer support, those with parental support and those with peer and parental support. Study 2 assessed physical and emotional functioning and quality of life by having the participants fill out surveys that allowed them to rate different factors in their life (peer support, parental support, depressive symptoms and well- being). There were four clusters: those with no support at all, those with peer support, those with parental support and those with peer and parental support	parental support.
Lewis, P., Klineberg, E., Towns, S., Moore, K. & Steinbeck, K. 2016 The Effects of	In the study, the researchers wanted to find out how participating in peer support groups (hospital-based peer	Purposive sampling strategy was used to form four participant groups. The participants included young people, their parents, Chronic Illness	There were 4 groups in the study. In group 1, there were 14 adolescents suffering from chronic illnesses. Group 2 consisted of the	The qualitative findings were divided in three groups: program attendance, program outcomes for young people and social connectedness. It was found out that parents experienced satisfaction from seeing their

Introducing Peer Support to Young People with a Chronic Illness. Australia Journal of Child & Family Studies (2016) 25(8): 2541-2553.	support program "Chronic Illness Peer Support") affects young people with chronic illnesses.	Peer Support Program Reference Group members and professional and volunteer coordinators of the program.	parents of the kids in the program, which made at least one parent per a child (over 14 parents in total). Group 3 consisted of 12 members of Chronic Illness Peer Support Program Reference Group. Group 4 consisted of coordinators who were all nurses. There was an 8- week introductory program for the new members of Chronic Illness Peer Support. Program and during that time, the members met 2 hours at a time per each week. Besides that, the members were compatible to attend an annual camp. The evaluation of the program was based on the introductory program. Data was collected using qualitative and	children's enthusiasm for the program. They also noticed their children showed personal growth and development in at least one domain (self-confidence, resilience and independence). The children found it useful to meet others who were in the same situation as them.

			quantitative methods. The researchers created discussion with each group by asking questions.	
Hughes, J., Wood, E. & Smith, G. 2009 Exploring kidney patients' experiences of receiving individual peer support. The United Kingdom Health Expectations(2009) 12(4): 396-406.	The study aimed to explore kidney patients' experiences with individual peer support.	Sample of 20 renal failure patients receiving dialysis. Other participants were patients who were willing to provide peer support to the former group.	Renal patients received individual peer support from other patients by meeting face-to- face or talking on the phone. The supporters were trained before starting the peer support program. The study was executed by conducting qualitative semi- structured interviews via phone. The patients who received peer support were asked about their experiences	The researchers identified four main themes from the interviews: interaction with the peer supporter, benefits of peer support and other sources of information and also the peer supporter as a role model. Most of the patients receiving peer support described the experience as positive and reported gaining understanding and being able to ask questions. They also told that it was beneficial to see someone who was in the same situation as them. They reported being reassured and encouraged and having gained confidence and strength.

Kirk, S. & Milnes, L. 2016 An exploration of how young people and parents use online support in the context of living with cystic fibrosis. The United Kingdom Health Expectations (2016) 19(2): 309-312.	The researchers studied how parents and children living with cystic fibrosis (CF) use online peer support. The participants discussed in separate discussion groups according to their condition and situation.	279 participants took part in the study. They were either children with cystic fibrosis or the parents of those children.	The method of the study was virtual observation (online ethnographical approach) and it involved observing, downloading and analyzing group postings. The threads of the parents and children were analyzed, coded and compared.	It was found in the study that the posts from parents were mostly about managing CF but the posts from the children were, besides that, also about living with the condition. The parents discussed their relationships with health care professionals and the children discussed their relationships with peers. It was noticed that the children used the forum as a way to form social connections. The threads and messages were more personal in their discussion group and they sometimes used their own names. Their discussions were supportive and caring and they provided each other help and advice and shared strategies of how to manage emotions related to the disease.
Armstrong, J. & Powell, J. 2009	The purpose of the study was to find out how patients using Internet to get health information perceived the health advice posted on online discussion boards. In this study, the	The participants were adults with Diabetes Mellitus type 1 (DMI). They were divided in three focus groups and there were 12 participants in total.	The study had three parts: a detailed consultation with stakeholder groups, a hands-on pretest with patients and focus group and last, 6-month pilot study. Qualitative data was gathered during	The peer support the participants received via discussions came up from the participants' answers and was perceived as valuable. The participants also reported that the possibility of getting tips, advice and suggestions about managing the disease was valuable. The patients were very willing to be in contact with

Patient perspectives on health advice posted on Internet discussion boards: a qualitative study. The United Kingdom Health Expectations (2009) 12(3): 313-320.	participants used Virtual Clinic (internet-Based self-management system for diabetes)		these stages. The patients were interviewed about their experiences with Virtual Clinic.	others who were in the same situation.
Sreedevi, A., Gopalagrishnan, U.A., Ramaiyer, S.K. & Kamalamma, L. 2017 A Randomized controlled trial of the effect of yoga and peer support on glycaemic outcomes in women with type 2 diabetes	The aim was to find out if low-cost interventions (yoga and peer support) help patients to manage Diabete Mellitus type II (DMII) and empower them.	The participants were 124 women with DMII aged 30-65.	The method was three-armed randomized controlled trial and the participants were randomized by block randomization. The study lasted three months. The participants were divided in two groups: yoga group and peer support group. The yoga group practiced yoga weekly both with and instructor and at home. The peer support group met the supporters regularly and had face-to-face discussions	In both groups, the state of the participants' diabetes improved as did their weight and overall health (blood pressure lowered etc.). In the peer support group, the participants' cholesterol got lower.

mellitus: a feasibility study India BioMed Central (2017) 17: 100.			individually.	
Riddel, M.A., Dunbar, J.A., Absetz, B., Wolfe, R., Li, H., Brand, M., Aziz, Z. & Oldenburg, B. 2016 Cardiovascular risk outcome and program evaluation of a cluster randomised controlled trial of a community-based, lay peer led	The study aimed to find out how does peer support affect management and controlling of Diabetes Mellitus type II (DMII).	The participants were 273 patients with DMII, 33 of who volunteered to give peer support.	The method used was a cluster randomized controlled trial with a peer support intervention. Routine care control arms were used as well. Interventions consisted of group-meetings led by the selected peer supporters. Before that, the participants received education about self-management of diabetes.	There were some positive changes in the behavior of the participants' behavior. Their self-care and physical activity increased and they had a slight increase in health status.

program for people with diabetes. Australia BioMed Central (2016) 16(1): 864.				
Taylor, F., Gutteridge, R. & Willis, C. 2016 Peer support for CKD patients and carers: overcoming barriers and facilitating access. The United Kingdom	The study aimed to find out what chronic kidney disease (CKD) patients and their carers need and want from formal peer support and what could be done to get them to participate more often in formal peer support groups. It explored their perspectives of CKD patients and their carers.	The sample consisted of 26 patients with stage 5 CKD and their carers.	The participants were interviewed and the study design was qualitative. They were interviewed individually at their homes or Renal Units. The interviews consisted of semi-structured questions mostly about peer support.	Informal peer support forms naturally and is received well by the patients. The participants agreed that peer support had more benefits than other kind of support. They mentioned that it was beneficial to talk to people who were in the same situation. They also felt they could tell things about their condition to peer without burdening them. From peer support, they mentioned they learned coping skills and methods and expectations for the future with the disease. They also received validation of their feelings.

Health Expectations (2016) 19(3): 617-630.				
Ravert, R.D., Russell, L.T. & O'Guin, M. 2017 Managing **chronic** conditions in college: Findings from prompted health incidents diaries. The United States Journal of American College Health (2017) 65(3): 217-222.	The purpose of the study was to collect data about critical health incidents as experienced by college students who had chronic medical conditions.	The participants were 9 college students with chronic medical conditions.	Techniques used in this study were critique incident technique and experimental sampling diaries. The participants filled e-mail surveys every three days in the course of fall semester. In each survey they described a heath incidents and thought of things that helped or could have helped in that situation. They also ranked the importance of these resources.	Different thematic categories were identified from the answers when it came to resources that they viewed as useful. The most important resource category for the participants was situational knowledge. Peer support was the second most important resource category. Other important categories were campus health expert, relaxation and local health provider.
Stanhope, V. & Henwood, B.F.	The aim of this study was to inform the development of integrated care by studying the	The participants suffered from chronic homelessness and/or had a diagnosis of mental health illness or a chronic	The participants were interviewed individually using semi-structured interviews about their	The participants had internal and external barriers when it came to addressing health needs. They had ways to overcome these barriers, such as peer support and increased

2013 Activating People to Address Their Health Care Needs: Learning from People with Lived Experience of Chronic Illnesses The United States Community Mental Health Journal (2014) 50(6): 656-663.	perspectives of those who had experience with chronic illnesses or homelessness.	physical illness. Fifteen males suffering from these issues participated in the study.	health.	self-confidence and empowerment. The most important part was regular, weekly peer support during the study. The group connected very well and the participants gained positive benefits, such as decreased sense of isolation.
Finlay, K.A. & Elander, J. 2016 Reflecting the transition from pain management services to **chronic** pain **suppo rt** group attendance: An interpretative	The aim of the study was to study the decision-making progress of a patient who is discharged from a Pain Management Programme and deciding to join a chronic pain support	Twelve subjects participated in the study who attended CPSGs. They all suffered from chronic, non-malignant pain.	The study was executed using qualitative analysis (interpretative phenomenological analysis). The data was collected using semi-structured interviews. The participants were asked about issues and factors in their decision to	Three main causes for CPSG attendance were identified: new social relationships, advanced pain management and internal conflict regarding to the decision to attend. The participants gained a sense of friendship, support and community from the group. It was important for them to gain friends who were in the same situation and understood what they went through. They also

phenomenological analysis. The United Kingdom British Journal of Health Psychology (2016) 21(3): 660-676.	group (CPSG).		join CPSG.	regarded CPSG as a place where they could be themselves. They experienced increased self-esteem and decreased loneliness.

Appendix 2. Framework analysis

Meaning unit	Condensed meaning unit	Simplified statement	Subcategory	Main category
"Our findings suggest that clinical practice should not only focus on parents but also on peers as a source of social support." (1)	Clinical practice should focus on peer support as a source of social support.	Peer support as a source of social support.		
"The Introductory Program promoted the beginnings of a sense of independence, self-confidence, and resilience in young people with a chronic illness as well as a sense of social connectedness between members." (2)	The program promoted independence, self-confidence and resilience as well as social connectedness between members.	Social connectedness between members		
"The role modeling aspects of peer support helped patients." (3)	The role modeling aspects of peer support	Role models	**Gaining social support, social connections and role models as an**	

			outcome of peer support. Social benefits
Talking to someone who's gone through what you're going through." (3)	Someone who's gone through what you're going through.	Someone in the same situation	
"Participants placed high value on local health care providers and others who had a firm understanding of the specific situations they encountered." (10)	The participants valued health care providers and others who had a firm understanding of the situations they encountered."	Others who had a firm understanding of the situations they encountered	
"Other accounts indicated that perceived similarities had helped establish understanding and identification, enabling respondents to imagine themselves in the peer supporter's shoes." (3)	Other accounts indicated that perceived similarities had helped establish understanding and identification	Understanding and identification	
"Feelings of acceptance and understanding were also important benefits associated with peer support, the affirmation of shared emotional experiences providing the reassurance and comfort of not being alone." (8)	Feelings of acceptance and understanding were important benefits of peer support, the shared emotional experiences providing the reassurance and comfort of not being alone.	Acceptance and understanding Providing reassurance and comfort	

"Much of the information and advice that patients are looking for is drawn directly from the experiences of others and is not necessarily something that can be provided by a health professional." (5)	Much of the information and advice is drawn from the experiences of others and is not something that can be provided by a professional.	Information and advice
"Beyond just being able to talk more openly with their care providers, the increased knowledge about their health care and the shared experience of poor treatment empowered them to demand a better standard of care." (10)	The increased knowledge about their health care and the shared experience of poor treatment empowered them to demand better care.	The increased knowledge about their health care
"Talking to a peer supporter had provided information to the contrary which had reassured them about starting treatment."(3)	Provided information which had reassured them about starting treatment	Information which had reassured them about starting treatment
"A safe space had been developed where participants could collectively share their experiences and feelings and receive support in the	Participants could share their experiences and feelings and receive support in the form of personal strategies for managing and living with cystic fibrosis.	Personal strategies for managing and living with cystic fibrosis

form of experientially derived personal strategies for managing and living with CF." (4)				
"Internet-based information sought from, and provided by, peers may therefore complement the advice and support provided in formal health-care settings rather than posing a challenge to it. "(5)	Information by peers may therefore complement the advice and support provided in formal health-care settings	Information by peers complements information provided by health care professionals	**Gaining knowledge, information and advice as an outcome of peer support.**	**Informational benefits**
"Patients identified two key benefits in particular: first, the ability to pick up tips and suggestions for managing their diabetes from peers, even for those who had had the condition for some time "(5)	Pick up tips and suggestions for managing their diabetes from peers	Tips and suggestions from peers for managing their disease		
"There was a very everyday dimension to the information people were seeking, and that 'experiential knowledge' was valued, sometimes above medical expertise "(5)	Experiential knowledge was valued, sometimes above medical expertise	Experiential knowledge from peers		

"Identifying with a peer supporter who was coping with treatment and had re-established the routines of everyday life also helped to normalize living with kidney disease." (3)	Helped to normalize living with kidney disease	Normalize living with kidney disease		
"The peer group also demonstrated a fall in total cholesterol levels by 5 mg/dl in comparison to the control group which showed an increase by 15 mg/dl." (6)	The peer group demonstrated a fall in total cholesterol compared to the control group.	A fall in total cholesterol		
"Participants reported increased physical activity and fruit and vegetable consumption." (7)	Increased physical activity and vegetable consumption.	Increased physical activity	**Increased physical health and adjustment to chronic pain as an outcome of peer support**	**Physical benefits**
"Participants all articulated the difference between friends with pain and friends without; friends who understood pain were conceptualized as people enabling you to move forwards and stretch your capacity for coping, therefore promoting greater	Friends who understood pain were conceptualized as people enabling you to move forwards and stretch your capacity for coping, therefore promoting greater adjustment to living with chronic pain	Promoting greater adjustment to living with chronic pain		

adjustment to living with chronic pain." (11)