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Enhancing Medication Compliance And Quality Of Life For People With Prolonged Obstructive Pulmonary Disease: A Nursing Education And Advising Programme Based In Hong Kong Based On Evidence

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Abstract

It may be challenging for COPD patients to remember to take their inhalers as prescribed. People's overall quality of life and health are negatively impacted by this. According to several studies, patients who strictly follow their prescription regimens have improvements in both their quality of life and readmission rates. Research indicates that nurse education and psychotherapy may improve medication adherence and quality of life for COPD patients. An inventive strategy that has shown promise in raising adherence to medicine and quality of life for individuals with chronic pulmonary fibrosis (COPD) is a nurse education and counselling programme. This dissertation aims to do three things: first, it will explore and design a plan for a clinical education programme; second, it will provide a framework for evidence-based practice; and third, it will evaluate the plan's viability. Six publications that matched the criteria were selected from two online databases. Studies were carefully reviewed to ensure sufficient quality and validity. The Scottish Integrated Guidelines Network (SIGN) checklists were used for the evaluation. After then, the collected data was analysed. The viability and flexibility of the implementation were assessed. The practicality of the research-based recommendations was also taken into account. Finding out whether evidence-based clinical principles were applicable to healthcare practitioners was the next stage. Next, we'll play around with the cost-benefit analysis and talk about the potential advantages and disadvantages of new technologies. Pragmatic clinical applications were also taken into account while the EBP procedure was being developed.

Keyword: Nursing Education, Pulmonary Disease, Emerging Technologies

Introduction

Chronic obstructive pulmonary disease, generally known as COPD, is a condition that affects millions of people all over the globe, making it a worry for the health of people all over the world. Chronic obstructive pulmonary disease (also known as COPD) is expected to become the third leading cause of mortality throughout the globe by the year 2030, as stated by the World Health Organisation

(WHO) (2012). In addition, chronic obstructive pulmonary disease (COPD) has a negative impact on the healthcare system in China (Manfreda,2018). The city's population is becoming older, which has led to an increase in the number of senior people in Hong Kong who are suffering from chronic obstructive pulmonary disease, often known as COPD. Consequently, the region will be subjected to substantial social and economic ramifications as a consequence. Contrary to what most people believe, people who suffer from chronic pulmonary obstructive disease (COPD) often battle with breathing compliance conditions that are not appropriate. You are going to get unwell as a consequence of this (Civil Service Bureau,2017).

the level of life as it is. According to the findings of a few studies, great medication compliance may reduce the number of hospital admissions and even improve quality of life. Patients who suffer from chronic obstructive pulmonary disease (COPD) may benefit from nurse education and counselling, according to research, which shows that these interventions may improve their quality of life and medication adherence. A course that combines psychotherapy and education for nurses is an innovative technique that has the potential to significantly improve the quality of life and medication compliance of people who suffer from chronic obstructive pulmonary disease (COPD). The three primary objectives of this dissertation are to investigate and develop a strategy for the delivery of a course of study in a clinical setting, to establish a methodology that is based on evidence-based practice (EBP), and to evaluate the viability of putting the strategy into action (Farber,2019).

Background Of the Study

According to the Global Organisation for Chronic Intermittent Lung Illness (GOLD), breathing in harmful gases or particles causes continuous irritation of the airways and lungs, which causes a restriction in airflow that often becomes worse over time. Despite being an incurable condition, chronic obstructive pulmonary disease (COPD) has symptoms and indicators that may be avoided. Comorbidities and exacerbations affect how severe a patient's health is overall (GOLD, 2013). The symptoms of chronic obstructive pulmonary disease include dyspnoea, persistent coughing or sputum production, and other respiratory illnesses (COPD). COPD, also known as chronic obstructive pulmonary disease, may arise from a history of exposure to risk factors such as occupational dust or second-hand smoke, in addition to a genetic susceptibility. A post-bronchodilator FEV1 /FVC of 0.70 or greater is another marker of chronic obstructive pulmonary disease (COPD). The GOLD states that there are four severity levels for airflow restriction associated with persistent obstructive pulmonary disease (COPD). Although there are many different COPD therapies, pharmacological and non-pharmacological methods are the most often used. There is a plethora of pharmacological alternatives available to mitigate symptoms and lessen the severity of flare-ups (Lin J,2019). There are numerous drugs used to treat chronic obstructive pulmonary disease (COPD), including bronchodilators and corticosteroids. Non-pharmacological treatment encompasses many interventions such as immunisation, exercise training, and smoking cessation. According to Anthonisen NR et al., smoking cessation programmes considerably decreased mortality. Early smoking cessation improves prognosis and overall health. Not surprisingly, research) revealed that more than 25% of those over 40 had moderate airway blockage. Furthermore, studies have shown that, with an estimated 2.75 million deaths annually, chronic obstructive pulmonary disease (COPD) is the fourth largest cause of mortality worldwide . This has an enormous global influence on a great number of individuals. The World Health Organisation (WHO) predicts that by 2030, chronic obstructive pulmonary disease (COPD) would overtake stroke and cardiovascular disease as the third most common cause of death. Significant social and financial repercussions result from this, including expensive medical bills. Between 1991 and 2000, hospital admissions for COPD in the UK grew fourfold, making up 1% of total hospital admissions. As per the 2003 report of the Lung and

Asthma Information Agency. Because carbon monoxide illness is so expensive, it poses a serious threat to global healthcare systems. The European Respiratory Society states that the primary source of health care costs associated with respiratory illnesses in the EU is chronic obstructive pulmonary disease (COPD), accounting for an average of 38.6 billion euros, or 56% of total health care expenditures. As a result, individuals worldwide suffer from chronic obstructive pulmonary disease (COPD) in a number of ways, such as reduced quality of life, higher rates of hospitalisation and death, and higher social and financial costs(Chandola,2018).

Purpose Of the Study

It's possible that patients with chronic pulmonary fibrosis don't comply with their inhalations enough. This has a detrimental effect on a person's level of life and general well-being. Several studies have shown that better medication compliance may lead to fewer hospital admissions and an improvement in quality of life. Nursing education and counselling may help patients with chronic obstructive pulmonary disease (COPD) adhere to their medication regimens and live better lives. An innovative new approach to supporting patients with chronic obstructive pulmonary disease (COPD) is a nurse education and guiding initiative. The purpose of this project is to improve medication compliance and patients' quality of life. The three main objectives of this dissertation are to: (1) develop an evidence-based practice (EBP) protocol; (2) assess the feasibility of implementation; and (3) research and develop a strategy for executing an instructional programme in a clinical context(Smyth,2019).

Two internet databases were searched, and six papers were chosen for further examination.

To make sure the eligible studies were of the highest quality and had reliable findings, an assessment was done. Checklists from the Scottish Intercollegiate Guidelines Network (SIGN) were used to assess it. Subsequently, the research was carried out and the outcomes scrutinised.

We looked at the implementation's viability and transferability. It was also considered if evidence-based suggestions might be implemented in real-world circumstances. Finding out whether medical practitioners could really use evidence-based recommendations in clinical settings was the next step. The next stage is to adjust the cost-benefit ratio seven times while weighing the advantages and disadvantages of novel concepts. Furthermore, the EBP protocol originated in the medical domain.

Literature Review

According to the Global Alliance for Chronic Obstructive Lung Disease (GOLD), breathing in harmful gases or particulates causes a chronic inflammation of the airways and lungs, which causes airflow restriction that becomes worse over time. Although there is no known cure for chronic pulmonary obstructive disease (COPD), its symptoms and indicators may be managed and possibly prevented. Comorbidities and exacerbations affect how severe a patient's health is overall (GOLD, 2013). The symptoms of chronic pulmonary obstructive disorder (COPD) include breathing difficulties, dyspnea, persistent coughing (or production of sputum), and other respiratory issues. Other possible causes of the illness include a history of exposure to risk factors including cigarette smoking and occupational dust, as well as a family history of chronic obstructive pulmonary disorder (COPD). An additional diagnostic sign for chronic obstructive pulmonary disease is a post-bronchodilator FEV1/FVC of 0.70. The GOLD states that there are four severity levels for airflow restriction associated with chronic obstructive pulmonary disease(Leiva-Fernández,2019).

Although there are many different COPD therapies, pharmacological and non-pharmacological methods are the most often used. In a number of ways, medications may reduce symptoms and the

severity of exacerbations. There are numerous drugs used to treat chronic obstructive pulmonary disease (COPD), including bronchodilators and corticosteroids.

This includes a variety of non-pharmacological treatments, such as exercise regimens, vaccinations, and quitting smoking. Initiatives to quit smoking have been linked to a considerable decrease in the number of fatalities (Anthonisen NR et al., 2005). Quitting smoking at a young age is the best course of action if you want to enhance your health and prognosis.

According to study conducted by Buist AS et al. in 2007, it was shown that more than twenty-five percent of people over the age of forty had significant airway obstruction. According to research conducted by Decramer M et al. (2012), chronic obstructive pulmonary disease (COPD) emerges as the fourth leading cause of death throughout the globe, claiming the lives of around 2.75 million people on a yearly basis. This is something that impacts a significant number of people all around the globe. In the year 2030, chronic obstructive pulmonary disease (COPD) is expected to surpass stroke and cardiovascular disease to become the third leading cause of death, as predicted by the World Health Organisation (WHO) (Jemal A et al., 2005). This is the prognosis that was made by the WHO. This has substantial adverse repercussions on society, both socially and economically, including very high expenses associated with medical care (Ninot, 2019).

Between the years 1991 and 2000, the number of hospitalisations in the United Kingdom that were attributed to chronic obstructive pulmonary disease (COPD) increased by a factor of four, making up one percent of all admissions. The Asthma and Lung Information Agency published their findings in 2003. The fact that chronic obstructive pulmonary disease, often known as COPD, is very costly for healthcare systems throughout the world makes the situation even more dire. According to figures provided by the European Respiratory Society in 2003, the overall cost of respiratory disorders in the European Union is estimated to be 38.6 billion euros. Chronic obstructive pulmonary disease (COPD) is responsible for 56 percent of these costs. It has been shown that chronic obstructive pulmonary disease (COPD) is linked to a worse quality of life, greater rates of hospital admission and mortality, as well as higher social and financial expenses (Fonseca, 2019).

Research Objectives

1. To describe the contextual, sustaining requirements and connotation of COPD in international and native situations.
2. To assess the significant studies and analyses of education program in improving COPD patients' medication compliance and QoL.
3. To evaluate the operation potential and clinical protocol involving transferability, feasibility and cost-benefit ratio of relevant topics.
4. To develop an application plan including feasibility issues, innovation evaluation and implementation basis.

Research Methodology

We will grade every qualified research based on their degree of evidence and present the results in TOE according to SIGN's 2014 grading system. Based on the study designs and bias risk, it ranges from 1++ to 4 in the system hierarchy. Both the 2008 research by E.O. Efraimsson et al. and the 2014 study by Wei, L. et al. used ITT analysis and the blinding approach; both studies were deemed 1+ for their well-conducted RCTs. Following that, owing to major bias concerns—such as poor generalizability and small sample sizes—the remaining four journals were assigned a score of 1. Taken together, the evidence was strong, and the study's findings provided a solid foundation for developing the evidence-based method.

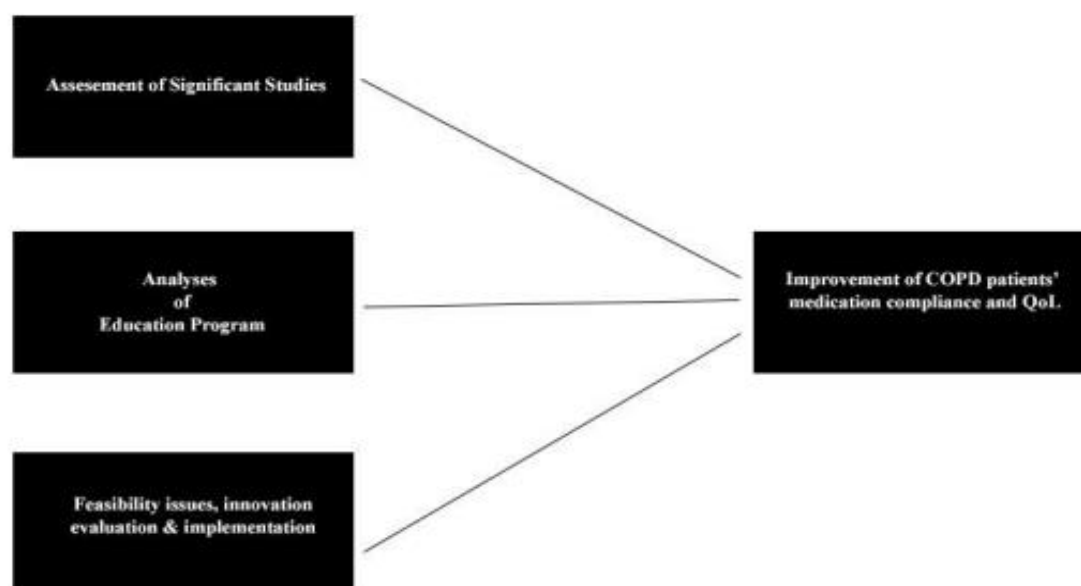
Research Design

Protocols based on evidence might benefit from randomised controlled trials (RCTs), which are a kind of research. Actually, randomised controlled trials (RCTs) are a great way to study the efficacy of treatments in clinical studies. In terms of scientific evidence, RCT is quite reliable, therefore its benefits can be easily shown. In order to further decrease research bias and increase objectivity and study quality, random assignment, blinding, and allocation concealment are used. The study technique might be seen as an RCT if we follow the research design of Wei et al., since it satisfies most of the requirements in SIGN checklists.

Data Analysis

The beneficial correlation between medication adherence education and quality of life was almost universally acknowledged by academic publications. There was no statistically significant disparity between the people receiving treatment group and the placebo group on the SGRQ, according to a single study by Leiva-Fernández et al. (2014). The SGRQ, NHP, Morisky scale, and dosage counter all produced statistically significant findings in the majority of the investigations. Use Wei, L. as an example. The SGRQ subscale scores and dose-response curves for the research by et al. (2014) demonstrated statistically significant improvements after 6 and 12 months of follow-up.

Conceptual Framework



Result

Chronic obstructive pulmonary disease patients may not inhale their medication as prescribed. Your quality of life and overall health will suffer as a result of this. Fewer hospitalisations and greater quality of life may result from increased drug compliance, according to many research. Patients with COPD may benefit from nursing education and counselling in terms of medication adherence and overall quality of life. A nurse education and guiding project is a pioneering new way to assist patients with chronic obstructive pulmonary disease (COPD). Enhancing patients' quality of life and medication compliance is the goal of this research. Creating an evidence-based practice (EBP) protocol, determining whether or not it is feasible to execute, and researching and developing a plan for implementing an educational programme in a clinical setting are the three primary goals of this dissertation.

Six articles were selected for additional evaluation after searching two online databases.

The evaluation ensured that the included studies were of excellent quality and had trustworthy results. For this evaluation, we turned to the Scottish Intercollegiate Guidelines Network (SIGN) checklists. The next step was to conduct the research and analyse the results.

The feasibility and transferability of the implementation were examined. The feasibility of implementing recommendations supported by evidence in actual settings was also taken into account. It was therefore necessary to determine whether clinical suggestions based on evidence could really be implemented by medical practitioners. After that, you'll need to analyse the pros and cons of new ideas seven times while adjusting the cost-benefit ratio. Additionally, healthcare is where the EBP protocol was first implemented.

Explanation of the TOE

A TOE is a tool that may be used to summarise the findings of an interventional research study. We are provided with information on the location of the research, its findings, the amount of time it followed up on, the procedures that were used, and the quality of the evidence. The measures that need to be taken in order to evaluate the internal validity of a research are going to be discussed in this section. Additionally, the total odds ratio (TOE) for all of the studies that were taken into consideration can be found in Appendix D. Methods for Assessing the Applicability of Internal Validity 1.

Titles of Studies

These esteemed magazines dedicate each piece to a different and significant topic, and they do it consistently. The abstract and introduction of each study describe the objectives and goals of the research being conducted. As a consequence of this, we are able to recognise the names of scientific research with relative ease, which enables us to comprehend the primary purpose of interventional investigations.

Discussion

Patient Demographics and Health History Five hundred ninety-three patients met the criteria for participation in all eight investigations. Both sexes were "16" represented, and patients had to be or older to participate. The inclusion criteria were spelt out, and we were able to use that information to learn about the patients. A post-bronchodilator FEV1/FVC ratio of at least 0.20 is one such example. The GOLD guidelines for COPD diagnosis recommended a 0.70 score as an inclusion criterion. A lack of AECOPD throughout the study period was another need for certain studies including COPD patients. However, participants with heart congestion, moderate to severe intellectual disabilities, or a history of pulmonary habilitation programme participation were not included in these trials. Patients with respiratory conditions other than COPD were also being ruled out. **Intervention, Time Period, and Recurrence.**

The quality of life (QoL) and adherence to treatment for people with chronic obstructive pulmonary disease (COPD) were the focus of all eight investigations. Case in point: E.O. The intervention group received a nursing education programme developed by Efraimsson et al. that included instruction in self-care and the development of coping mechanisms for AECOPD. Each session lasted an hour, and between three and five months of follow-up were provided to gauge the success of the intervention. COPD sufferers. In addition, G. Ninot et al. used a self-management programme for 4 weeks, 2 hours per week, as an intervention to assess its impact on quality of life. **Time Spent in Contact** Each research had a different duration of follow-up, from 30 days to 12 months. Leiva-Fernández et al. gave 3, 6, and 12 months of follow-up to both the intervention and control group, while most studies only provided 2. Press, V. G. et al. (2012) provided a "10-minute telephone" interview.

Methods of Evaluation and Outcomes

Medication adherence and quality of life were the foci of the study's findings. Quality of life was evaluated using the Short-Form 36 (SGRQ) and the Nottingham Health Profile (NHP), while medication compliance was assessed using the Morisky scale and dosage counter. All of these instruments for gauging quality of life and drug adherence have been shown to be reliable and accurate in such research. A worse health state was indicated by a higher SGRO and NHP score. more scores on the Morisky scale indicated lesser compliance, whereas fewer readings from the dosage counter indicated more compliance.

Study Outcomes:

Almost all publications agreed that patient education programmes aimed at improving medication adherence also improved quality of life. The SGRQ scores of the intervention and control groups were not different in any study except that conducted by Leiva-Fernández et al. (2014). In addition, the SGRQ, NHP, Morisky scale, and dosage counter all showed statistically significant outcomes in nearly all investigations. Take the work of Wei, L. Statistically substantial improvements in SGRQ subscale scores and dose-response curves were seen at 6 months and 1 year of follow-up (et al., 2014).

Conclusions and Implications

Research Plan

All of the aforementioned studies were randomised controlled trials (RCTs), which has inspired us to leverage the strengths of this research design in order to create a methodology supported by evidence. Clinical trials of medical interventions benefit greatly from the use of RCTs as a research design. As a result of these benefits, randomised controlled trials (RCTs) are considered to be the gold standard of scientific evidence in the hierarchy of evidence. As a result, the objectivity and quality of the study are enhanced by the use of random allocation, blinding, and allocation concealment. Wei, L. et al. (2014) is an excellent example of a randomised controlled trial since its research design covers most of the items on SIGN checklists.

Conclusion

It was believed that the study's examination would have an effect on both quality of life and drug compliance. A dosage counter (NHP) and the Morisky scale were used to monitor medication adherence, while the Nottingham Health Profile and the SF-36 were used to assess quality of life. Its correctness has been confirmed by studies on drug adherence and quality of life. A worsening of health was indicated by higher SGRO and NHP scores. A lower score on the Morisky scale indicated poorer compliance, whereas a higher score indicated greater compliance according to the number of dosage counters (Krishnan,2017).

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