Article

A Successful Nursing Education And Counselling Service To Improve Medication Adherence And Quality Of Life For Patients With Copd: An Exploratory Investigation Carried Out In Hong Kong

1st Hu Yue, 2nd Datin Hafizah Che Hassan

Abstract

Among the leading causes of long-term sickness in hong kong was copd. For copd patients, medication wasn't enough. Making ensuring patients understood and adhered to their treatment plans requires a lot of support from many individuals. The purpose of this study was to determine if copd patients' quality of life and adherence to medication might be improved by providing them with nursing education and counselling. For this quantitative investigation, a group of copd patients from hong kong's outpatient clinics were chosen at random. Nursing staff will participate in organised instructional sessions centred on illness awareness, inhaler skills, and medication administration; therapeutic treatments will help increase motivation and ease lifestyle changes; and mental health services will address any difficulties that patients may be experiencing. Patient adherence to treatment regimens was much higher among those who received nursing education and counselling. Also, in terms of self-esteem, everyday functioning, and symptom management, they noted significant improvements in their quality of life assessments. The findings highlighted the significance of nurse-led interventions in copd treatment and supported the incorporation of educational and counselling services into traditional care models. Additional empirical data about the treatment of chronic illnesses in hong kong was added to the growing body of knowledge by this research. It was also said that in order to treat copd effectively over the long term, patient-centered nursing techniques are essential.

Keywords: copd, nursing education, counselling services, medication adherence, chronic disease management

Introduction

Copd, which was a prominent global killer in 2017, is affecting an increasing number of individuals in hong kong. Persistent airflow restriction and recurring flare-ups are the primary symptoms of copd, which result in a substantially diminished quality of life and increased hospitalisations for patients. Poor adherence to prescribed medication was a significant challenge in the management of copd. As a result, therapies were more costly and less effective. It was imperative to adhere to the prescribed dosage in order to alleviate the symptoms of the illness and cure it. Lack of motivation, incorrect inhaler use, lack of knowledge about the condition, and psychosocial stress were the most common reasons for individuals not adhering to the instructions. Healthcare providers have shifted their focus to patient-centered approaches, including education and counselling, in an effort to address these issues. Counselling services were advantageous to patients due to their provision of moral support, practical life advice, and words of encouragement. Nurse education prioritised patient education regarding copd, medication adherence, and overall health. Despite the scarcity of data from hong kong, prior research has demonstrated that these therapies enhance treatment adherence and well-being. In this study, the quality of life and medication adherence of patients with chronic copd in hong kong who participated in a structured nurse education and counselling program were assessed. The research demonstrated that nurse-led interventions are advantageous for the management of chronic disease through the use of a quantitative

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methodology and simple random sampling. The cost of hospitalisations for copd exacerbations is the most significant source of healthcare expense for individuals with copd. As a consequence of frequent exacerbations, patients with copd experience a decrease in lung function and quality of life (7-9). Additionally, a significant number of patients are elderly and have multiple medical conditions, including diabetes, heart disease, osteoporosis, high blood pressure, and mental illness. It is imperative to obtain an accurate diagnosis and conduct an appropriate evaluation of the condition in order to provide clinical care for all copd patients (san et al., 2019).

1. Background of the study

Copd is a significant cause of mortality among the elderly. The global epidemic of tobacco use is contributing to the increasing prevalence of copd. Copd is expected to become the third most prevalent cause of death globally by 2020, with a projected prevalence of 11.7% (agarwal et al., 2021). Dyspnoea, chronic wheezing, and sputum production are persistent respiratory symptoms that characterise copd. The incidence of acute exacerbations is elevated, and patients who are inadequately managed with respiratory symptoms experience increased hospitalisations and diminished lung function. Inhalation therapy is the foundation of respiratory symptom management. Patients' quality of life, treatment outcomes, and hospital service utilisation are all negatively impacted by non-adherence and improper therapy administration. Patients who are enduring an acute exacerbation of copd occupy nearly 10% of hospital beds in hong kong (agarwal et al., 2021). Patients' failure to comply with inhalation therapy is one preventable cause of admission. Despite the fact that educational interventions can enhance patients' self-care knowledge, there are a limited number of randomised controlled trials (rcts) that have concentrated on improving the adherence of copd patients to inhalation medication (wang et al., 2025). Motivation is composed of two components: social motivation and a positive attitude. A social motivation is the sense of social support that one experiences when engaging in the behaviours they have chosen, while a positive attitude is the belief that the changes in behaviour are beneficial. The imb model prioritises the development of the individual's self-assurance in their capacity to exhibit the desirable behaviours as a method of acquiring the requisite skills. To motivate patients to execute the desired behaviours, it is advantageous for them to establish objectives and an action plan (wang et al., 2025). Social support can also be provided by counselling the patient regarding their emotions and the challenges they face in adhering to their treatment plan. Despite the fact that the imb model has never been employed to improve the adherence of copd patients to inhalation therapy, a systematic analysis demonstrated that education-only treatments were ineffectual in comparison to interventions that included behavioural and psychosocial components.

2. Purpose of the study

The objective of this investigation was to ascertain whether nurse education promoted medication adherence among copd patients in hong kong. Patients who failed to adhere to their treatment regimens for chronic copd were readmitted to the hospital, and their symptoms deteriorated. The purpose of this study was to determine whether structured educational interventions, which are administered by nurses, can improve adherence levels by increasing awareness of illnesses and implementing appropriate medication practices. The findings suggested that nurse education should be incorporated into the standard treatment of copd to improve therapeutic efficacy and enable the maintenance of disease management.

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3. Literature review

The significance of incorporating self-efficacy theory with educational frameworks to improve medication adherence in patients with copd has been emphasised in recent theoretical and empirical studies. A quasi-experimental study conducted in iran demonstrated that targeted educational sessions substantially enhanced health literacy and self-efficacy among copd patients ($f = 62.15$, $p < 0.05$), emphasising the importance of self-efficacy as a critical mediator of self-management behaviours (aliakbari et al., 2022). It was demonstrated in a randomised controlled trial (rct) that nurse-led education and structured follow-ups significantly improved self-efficacy and patient-reported outcomes in copd populations, underscoring the significance of confidence enhancement in promoting adherence (liu et al., 2025). The trial was based on the chronic care model.

Research has shown that the relationship between illness perception and inhaler adherence is mediated by patients' beliefs, particularly those related to medication apprehensions and necessity beliefs, as demonstrated by the use of constructs from the health belief model. It was discovered that adherence was predicted to be reduced by increased concerns, while adherence was predicted to be enhanced by greater necessity beliefs (wang et al. 2025). Further, a structural equation modelling analysis of u.s. copd cohorts revealed that health literacy did not directly influence adherence; rather, it influenced medication beliefs, which in turn influenced adherence behaviours (liu et al., 2025).

Additionally, observational network analysis conducted in china verified that self-care self-efficacy was an essential component of self-management behaviours, particularly in the areas of symptom monitoring, problem-solving, and adjusting treatments in response to symptom variations. This underscores the significance of confidence in the development of adherence behaviours (sazak & olgun, 2025).

A unified theoretical synthesis was collectively supported by these findings: self-efficacy theory demonstrated that adherence was bolstered by increased confidence as a result of nursing education. The health belief model's elements suggested that modifying beliefs about medication—particularly by alleviating concerns and reinforcing necessity—were essential mechanisms. Health literacy was a primary factor in shape those beliefs. Interventions that are based on the chronic care model, which incorporate education, counselling, and follow-up, effectively leverage these mechanisms to enhance adherence outcomes. This theoretically substantiated evidence required the integration of structured nursing education and counselling into copd interventions, particularly in contexts such as hong kong, where tailor-made strategies could assist patients in adopting manageable self-care practices.

4. Reserdach question
➢ What is the impact of counselling services on enhancing the quality of life of patients with copd?

5. Research methodology
- **Research design**

Statistical analysis was conducted using spss version 25. Researcher utilised the odds ratio and the 95% confidence interval to determine the strength of the statistical association and the direction in which it was moving. For statistical significance, the researchers established a threshold of $p < 0.05$. Researcher were able to determine the most critical components of the data by employing descriptive statistics. Quantitative methodologies are frequently implemented to assess data that has been subjected to statistical analysis software or data that has been gathered through surveys, questionnaires, or polling.

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- **Sampling**

Initially, the questionnaire was tested with 20 chinese patients before being distributed to a final sample of 500 customers for the research. 700 surveys were distributed to clients who were randomly selected. Ultimately, the researcher eliminated 200 surveys that were incomplete.

- **Data and measurement:**

The primary method of data collection in the study was a questionnaire survey. The poll began with some basic demographic questions, and then moved on to a series of online and offline channel ratings using a 5-point likert scale. The secondary data was obtained from a variety of sources, including online databases.

- **Statistical software:** the statistical analysis was conducted using spss 25 and microsoft excel.
- **Statistical tools:** through descriptive analysis, the main characteristics of the data were revealed. Using anova to examine the data is entirely up to the researcher.

6. **Conceptual framework**
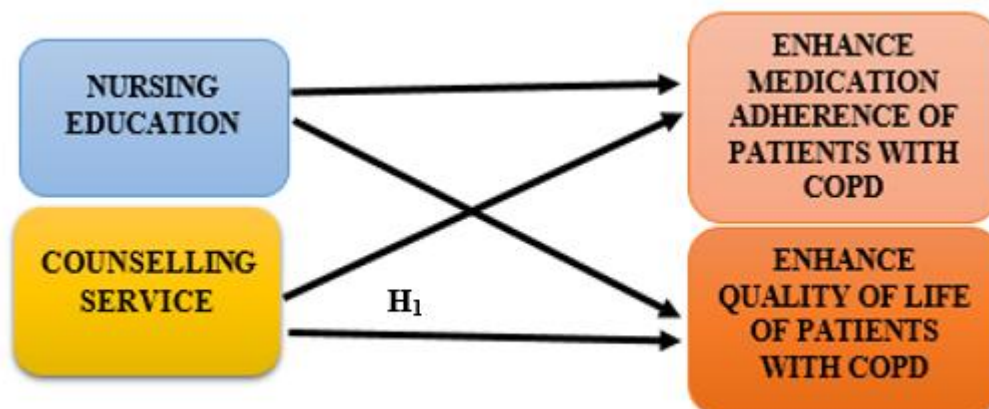
7. **Result**
- **Factor analysis**

Finding latent components in data is a common use case for factor analysis (fa). It is common practice to construct evaluations using regression coefficients when no clear symptoms or indications are present. Models are crucial to fa's success. The use of models allows one to search for mistakes, intrusions, and obvious connections. Datasets produced via multiple regression analyses can be assessed using the kaiser-meyer-olkin (kmo) test, among other methods. The model and its variables are validated by them. From what researcher can see from the statistics, there is data duplication. Data becomes more understandable when proportions are reduced. When people run kmo, it will return an integer between zero and one. A kmo value between 0.8 and 1 is considered a suitable sample size. According to kaiser, these are the amounts that are considered acceptable: according to kaiser, these are the requirements to be enrolled:

At a pathetic 0.050 to 0.059, much below the typical 0.60 to 0.69

the typical range for middle school grades is between 0.70 and 0.79.

With a quality point total between 0.80 and 0.89.

For some reason, the range of 0.90 to 1.00 catches people off guard.

The results of the kmo and bartlett's test are displayed in table 1.

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Examining kaiser-meyer-olkin 960 sample adequacy in the study of kmo and bartlett bacterial species
computing chi-square was the outcome of bartlett's sphericity test.
Df=190

Sig.=.000

Claims made just for the purpose of sampling are thus proven to be valid. A relevantness check was performed on the correlation matrices using bartlett's test of sphericity. A value of 0.960 indicates an appropriate sample according to kaiser-meyer-olkin. A p-value of 0.00 was obtained by means of bartlett's sphericity test. Since bartlett's sphericity test yielded a positive result, it appears that the correlation matrix is not an identity matrix.

Table 1: KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.960
Bartlett's Test of Sphericity	Approx. Chi-Square	3252.968
	df	190
	Sig.	.000

Thereby, assertions concerning the dependability of a sample's execution get weight. If the correlation matrices were significant, the scientists would use bartlett's test of sphericity. Kaiser-meyer-olkin criteria, with a score of 0.960, consider the sample good. A p-value of 0.00 was produced by bartlett's sphericity test. Based on bartlett's sphericity test, the correlation matrix cannot be an identity matrix since the results are statistically significant.

   o **Test for hypothesis**
▪ **Independent variable: nursing education**

Nurses teach patients about their diseases, treatment choices, and ways to be an active part of their healthcare through an organised approach to education. People who deal with copd have adapted their way of life to keep an eye out for worsening symptoms, take their medication and inhalers exactly as directed, and more. It highlighted the need of skilled nurses giving patient's information based on evidence to make them feel more empowered in both individual and group settings. The fundamental goals of nursing education have consistently been to promote health, enhance longevity, and guarantee that patients follow their prescribed treatment regimens (san et al., 2019).

▪ **Independent variable: counselling service**

Through the process of counselling patients, they are capable of assisting individuals who are managing long-term diseases in addressing the mental, emotional, and social issues that are associated with these conditions. Nurses are capable of accomplishing this by employing the counselling process. The copd counselling program provided participants with personalised guidance on how to manage stress, modify their lifestyle, seek emotional support, and continue taking their medicine. Ultimately, they are able to feel more confident in themselves as a result

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of the fact that they were able to voice their concerns, receive responses to their enquiries, and acquire knowledge from the process. (chu et al., 2025) the therapy system's primary objectives were to enhance the quality of life and physical health of patients, as well as to offer support for their mental health. Additionally, patients were encouraged to adhere to their prescribed medications.

- **Dependent variable: enhance medication adherence of patients with copd**

Instructing patients with copd on the proper use of inhalers, oral drugs, and other therapy may improve the likelihood that they will follow their physician's recommendations. With this in mind, it is quite evident that patients are required to strictly follow the treatment plans that have been specifically designed to address their individual requirements. When prescribed medication for copd, patients were expected to adhere to their doctor's instructions about both timing and dosage. The results demonstrated that most patients' symptoms worsened because they were unwilling to follow the prescribed treatment path. Because of this, their overall quality of life declined, the number of flare-ups increased, and their hospital stays lengthened. They were able to accomplish what they set out to do and stay committed to their goals because of the coordinated assistance they received, which included patient education, counselling, and follow-up therapy. Medical professionals gave patients reassuring words, up-to-date information, and situationally relevant abilities. Furthermore, as soon as new information became available, patients were provided with it. Studies done in 2020 by bhattarai and colleagues found that these experts' main goal was to help patients feel more secure and committed to their therapy.

- **Dependent variable: enhance quality of life of patients with copd**

Copd patients may improve their physical, mental, and social health to live fuller, more fulfilling lives. It is possible to do this. Persistent symptoms are a hallmark of copd patients. Weakness, reduced ability to exert oneself, and difficulty breathing are some of the symptoms. Incorporating these considerations made it more challenging to rely just on one's own resources and complete routine duties. Patients experienced emotional distress in the form of worry and despair due to their feelings of powerlessness; this, in turn, caused them physical limits and repeated hospitalisations. As a consequence of their illness, patients also faced physical restrictions. In order to enhance their quality of life, individuals felt forced to adopt remedies that would reduce their symptoms, fortify their brains, and make their lives easier. Their current quality of life was the driving force for their action. Patients were able to learn more about their illnesses and develop self-care abilities via nurse education. Counselling services helped with a lot of bad feelings, including tension, inactivity, and emotional isolation. The capability to control symptoms, communicate with loved ones, and do everyday tasks were all enhanced by this treatment, among other beneficial outcomes. Improved long-term results, less healthcare use, and higher quality of life were seen in patients with chronic obstructive pulmonary disease (copd) who prioritised their physical and mental health (grygus et al., 2019).

- **Relationship between counselling service and enhance quality of life of patients with copd**

Counselling services are highly important for people with copd who want to improve their quality of life. Along with the physical difficulties that come with their illness, individuals frequently have mental health issues including worry, depression, and feeling alone. These issues often stem from the sickness itself. It's quite clear that these issues have a big effect on their health as a whole. People who attend to therapy gain emotional support and help coping with the long-term impacts of their condition, which is helpful for their mental health. Counselling may also help patients cope with the long-term implications of their illness. It also

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teaches patients how to handle stress, change their habits in everyday life, and make sure they adhere to their treatment regimens. Each of these things may help people in more ways than just helping them deal with their illness and the issues of their daily life. Patients may get the fortitude they need to cope with the problems that come with copd by going to classes on a regular basis. This helps people understand their disease better, learn how to live with it, and find solutions to cope with it. Counselling also helps patients feel like they are in charge of their life by urging them to stop smoking, get some exercise, and take an active role in their medical care. This is done by getting patients to do these things (yudhawati, 2019).

The researcher developed the following hypothesis, which examined the relationship between counselling service and enhance quality of life of patients with copd.

"h_{01}: there is no significant relationship between counselling service and enhance quality of life of patients with copd."

"h_1: there is a significant relationship between counselling service and enhance quality of life of patients with copd."

Table 2: H_1 ANOVA Test

ANOVA					
Sum					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	39588.620	206	5432.961	939.308	.000
Within Groups	492.770	293	5.784		
Total	40081.390	499			

The outcome of this investigation is substantial. The p-value of .000, which is less than the .05 alpha level, reaches significance at a value of f of 939.308. This implies that the null hypothesis is rejected, and the hypothesis *"h_1: there is a significant relationship between counselling service and enhance quality of life of patients with copd."* Is accepted.

8. Discussion

This study's results show that people with copd in hong kong had a better quality of life and were more likely to stick to their medication schedule when they went to nurse education and counselling sessions. During the instructional sessions, patients gained a deeper understanding of their condition, the need of adhering to a regular drug regimen, the correct use of their inhalers, and different strategies for managing their medical symptoms. Counselling helped in this way because it lowered patients' stress levels, gave them a safe place to talk about their problems, and pushed them to stick to the treatment plans they had made at initially. Patients who received personalised support and organised teaching had not only improved health results but also heightened self-confidence. A greater degree of adherence not only enhanced overall health and made daily tasks simpler, but it also lowered the risk of issues that needed hospital care. Based on these results, nurses should be the primary carers for individuals with copd. Patients may get information and guidance to promote more involvement in their treatment. This has a very bad effect on the health of these people. Although this an exploratory study, the results indicated that structured nursing interventions might be beneficial in the treatment of chronic illnesses in hospital environments similar to those examined.

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9. Conclusion

This research revealed that patients with copd in hong kong had a better quality of life after nurses taught them and gave them counselling, which made them more likely to follow the drug schedule. People with health issues who had regular academic help were better able to comprehend their symptoms, take their medicines as advised, and stick to their treatment programs. Patients got emotional support and learning how to deal with their emotional issues via therapy. This helped them get over the things that were stopping them from following their treatment plan. The results revealed that those who went to both school and therapy at the same time felt better overall, had less symptoms, and took better care of themselves every day. Patients will always like it more when nurses are around to aid them with their treatment. If these findings hold, this preference will only get stronger with time. The findings of this pilot research suggest that nurses might significantly assist copd patients by providing guidance and support as they endeavour to adhere to their medication regimens. Adding these behaviours to regular medical care might help patients' live better, more independent lives, stay out of the hospital longer, and stick to their treatment plans longer.

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