A FUNCTIONAL NURSING EDUCATION AND COUNSELLING SERVICE FOR COPD PATIENTS TO IMPROVE MEDICATION COMPLIANCE AND QUALITY OF LIFE: A PRELIMINARY INVESTIGATION UNDERTAKEN IN HONG KONG.

Hu Yue 1*, Datin Hafizah Che Hassan 1

1 Lincoln University College, Petaling Jaya, Malaysia.

*Corresponding author: Hu Yue, Lincoln University College, Petaling Jaya, Malaysia.

ABSTRACT

One of the leading causes of long-term sickness in Hong Kong was COPD. In order to manage their COPD, patients required more than simply medicine. To ensure that patients comprehended and adhered to their treatment regimens, coordinated assistance was required. The purpose of this research was to determine whether or not COPD patients' medication adherence and quality of life could be improved by the provision of counselling and nursing education. In this quantitative study, a cohort of COPD patients visiting Hong Kong outpatient clinics were randomly selected to participate. Therapy treatments targeted at boosting motivation, supporting lifestyle changes, and addressing mental health issues were included of the intervention, which also included planned nursing education sessions on disease knowledge, inhaler methods, and medication management. Patients who received nursing education and counselling were substantially more likely to adhere to their drug regimens, according to the data. Additionally, they saw significant improvements in their quality of life ratings, particularly in the areas of symptom management, daily functioning, and self-esteem. The findings demonstrated the significance of nurse-led interventions in COPD management and supported the inclusion of counselling and education services in standard care models. Adding to the growing body of information on chronic disease management in Hong Kong, this study provided empirical evidence. Additionally, it stated that in order to achieve the best long-term outcomes from COPD treatment, patient-centered nursing approaches are required.

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

INTRODUCTION

Chronic obstructive pulmonary disease (COPD), the top cause of death worldwide in 2017, is affecting an increasing number of Hong Kong residents. Patients with COPD have a far lower quality of life and spend more time in the hospital due to the condition's main symptoms, which include persistent airflow restriction and periodic flare-ups. Inconsistent medication use was a significant challenge in managing chronic obstructive pulmonary disease. As a result, treatments were both less effective and more costly. To get well and stay well, you had to take your medicine exactly as directed. People mostly disregarded the directions because they were either unaware of the disease or used the inhaler incorrectly, were unmotivated, or were

experiencing psychosocial stress. Healthcare providers are now focussing on patient-centered techniques, like education and therapy, to tackle these difficulties. Counselling services were helpful for patients because they offered encouragement, direction in daily living, and practical advice. The program's primary objective was to educate patients on COPD, medication adherence, and overall wellness. Prior studies indicated that these interventions enhanced well-being and treatment adherence; however, data from Hong Kong was lacking. Medication adherence and quality of life were assessed in this research of COPD patients in Hong Kong who were a part of a structured nursing education and counselling program. The study demonstrated the usefulness of nurse-led interventions for chronic disease management by employing a quantitative methodology based on simple random sampling. The cost of hospitalisations for COPD exacerbations is the leading cause of healthcare expenditure for individuals with COPD. Consistent worsening of lung function and quality of life in COPD patients is associated with a number of adverse health outcomes, including but not limited to: advanced age, obesity, diabetes, hypertension, osteoporosis, and mental illness. Precision in diagnosis and thorough evaluation are cornerstones of clinical management for COPD patients (San et al., 2019).

BACKGROUND OF THE STUDY

Even among the elderly, COPD ranks high in terms of mortality. The global epidemic of tobacco use is elevating the prevalence of COPD. COPD is expected to reach a prevalence of 11.7% by 2020, making it the third leading cause of death globally. COPD is characterised by dyspnoea, a persistent cough, and the generation of sputum. Patients with poorly controlled respiratory symptoms had lower lung function, a higher risk of acute exacerbation, and more hospitalisations overall (Agarwal et al., 2021). Inhalation therapy is the backbone of treatment for controlling respiratory symptoms. Because to non-adherence and incorrect administration of therapy, patients' treatment outcomes, quality of life, and hospital service utilisation are all negatively impacted (Agarwal et al., 2021). Individuals in Hong Kong who are dealing with a severe worsening of COPD account for about 10% of hospital beds. Patients' failure to comply with inhalation treatment is one avoidable cause of hospitalisation. Despite the fact that educational interventions might raise patients' self-care knowledge, few randomised controlled trials (RCTs) have focused on enhancing COPD patients' adherence to inhalation therapy (Wang et al., 2025). Two things are needed to motivate someone: a positive attitude and social motivation. When you have a positive attitude and believe that the changes in behaviour are good for you, and when you are motivated by social support, you are more likely to do the actions you have chosen. The individual's conviction in their own capacity to engage in the desired behaviours is emphasised in the IMB model as a means to acquire such skills. The development of objectives and a strategy can assist patients in maintaining the desired behaviours (Wang et al., 2025). One way to provide social support is to counsel the patient on their emotions and the things that are getting in the way of adherence. Despite the lack of use of the IMB model to improve inhalation therapy adherence in COPD patients, a systematic review found that education-only therapies were less effective than interventions that combine behavioural and psychosocial issues.

PURPOSE OF THE STUDY

Finding out whether nurse education helped COPD patients in Hong Kong stick to their drug regimen was the main goal of this research. Rehospitalisation and worsening symptoms occurred for patients with COPD who failed to adhere to their prescribed treatment regimens. The study's overarching goal was to determine whether, through increased sickness awareness and the adoption of suitable medication practices, structured educational interventions delivered by nurses could improve adherence rates. The results showed that in order to improve the effectiveness of treatment and make it easier to control the disease over time, nurse education should be a part of routine treatment for COPD.

LITERATURE REVIEW

Integrating educational frameworks with Self-Efficacy Theory to improve medication adherence in COPD patients has been highlighted in recent theoretical and empirical research. The importance of self-efficacy as a mediator of self-management behaviours was highlighted in a quasi-experimental study conducted in Iran, which found that focused educational sessions greatly enhanced health literacy and self-efficacy in COPD patients ($F = 62.15$, $p < 0.05$) (Aliakbari et al., 2022). The significance of confidence enhancement in encouraging adherence was highlighted in a RCT based on the Chronic Care Model that found that nurse-led education and structured follow-ups greatly improved (Liu et al., 2025).

Using components from the Health Belief Model, studies showed that patients' beliefs, especially those about medicine fears and necessity beliefs, moderated the connection between how they perceived their condition and how well they used their inhaler. Findings from a study indicate that adherence is positively correlated with higher necessary views and negatively correlated with lower worries (Wang et al., 2025). Health literacy did not directly affect adherence, according to a structural equation modelling study of US COPD cohorts (Liu et al., 2025), but it did affect pharmaceutical beliefs, which influenced adherence behaviours. Confidence is crucial in shaping adherence behaviours, as confirmed by observational network analysis in China, which also showed that self-care self-efficacy was essential to self-management behaviours, especially in symptom monitoring, problem-solving, and treatment adjustment in response to symptom variations (Sazak C Olgun, 2025).

All of these results pointed to the same theoretical conclusion: According to the Self-Efficacy Theory, nurses' self-confidence grows through nursing school, which in turn increases adherence. The Health Belief Model proposes that health literacy is a key component in changing people's views about medication, particularly by reducing worries and reiterating the need of the drug. The Chronic Care Model's interventions—which include education, counselling, and follow-up—made good use of these mechanisms to boost adherence results. This evidence-based theory called for the incorporation of counselling and structured nursing

education into COPD treatments, especially in settings like Hong Kong where individualised approaches could help patients adopt more manageable self-care routines.

RESERCH QUESTION

How does nursing education influence the quality of life of patients with COPD?

RESERCH METHODOLOGY

Research Design

Utilising SPSS version 25, the statistical analysis was carried out. We used the odds ratio and the 95% confidence interval to find out how strong the statistical association was and in what direction it was going. The researchers established a statistically significant criteria of $p < 0.05$. Using descriptive statistics, we were able to identify the most important aspects of the data. Quantitative approaches are commonly used to evaluate data that has been processed by statistical analysis software or data that has been collected by polls, questionnaires, or surveys.

Sampling

Prior to being distributed to a final sample of 500 customers for the research, the questionnaire had an initial test with 20 Chinese consumers. Clients were randomly selected and 700 surveys were distributed to them. In the end, the researcher discarded 200 surveys that were incomplete.

Data and Measurement

A questionnaire survey was the principal tool for gathering data in the study. The first part of the survey asked for basic demographic information, while the second part asked respondents to rate various aspects of the online and offline channels on a 5-point Likert scale. A number of sources, including internet databases, were used to compile the secondary data.

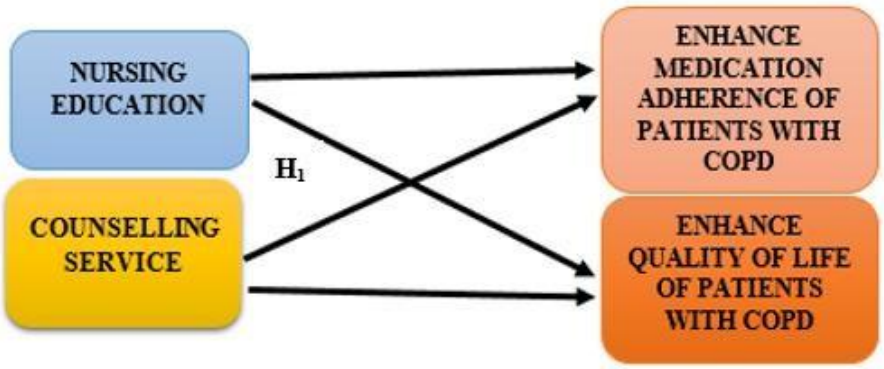
Statistical Software

Microsoft Excel and SPSS 25 were used to do the statistical analysis.

Statistical Tools

The primary features of the data were elucidated by descriptive analysis. It is up to the researcher to use ANOVA to analyse the data.

CONCEPTUAL FRAMEWORK



RESULT

Factor Analysis: Factor Analysis (FA) is often used to check whether there are hidden components in the data. When there are no obvious symptoms or indicators, it is usual practice to build assessments using regression coefficients. The success of FA depends on models. Using models, one may look for errors, invasions, and evident links. The Kaiser-Meyer-Olkin (KMO) Test is one way to evaluate datasets that have been generated via several regression analyses. The validity of the model and its variables is checked by them. Data duplication seems to be present based on the numbers. Lessening the proportions makes the data more comprehensible. An integer between 0 and 1 is the output of executing KMO. A appropriate sample size is defined as a KMO value between 0.8 and 1. The following are the acceptable levels, according to Kaiser: The following are the prerequisites for enrolment, as stated by Kaiser:

Less than the usual 0.60 to 0.69, a pitiful 0.050 to 0.059

A range of 0.70 to 0.79 is considered average for middle grades. Carrying a quality point total ranging from 0.80 to 0.89.

Something about the range of 0.90 to 1.00 surprises them. The KMO and Bartlett's Test are presented in Table 1. Investigating KMO and Bartlett species of bacteria. Sampling Adequacy as Measured by Kaiser-Meyer-Olkin.960

What resulted from Bartlett's sphericity test was this: computed chi-square

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

This lends credence to claims about the reliability of a sample's execution. Using Bartlett's Test of Sphericity, the correlation matrices were evaluated for significance by the scientists. The sample is deemed satisfactory by the Kaiser-Meyer-Olkin criteria with a score of 0.960. The results of Bartlett's sphericity test yielded a p-value of 0.00. The results are statistically significant, hence the correlation matrix cannot be an identity matrix, according to Bartlett's sphericity test.

Test For Hypothesis

INDEPENDENT VARIABLE

Nursing Education: Through a structured approach to education, nurses educate patients about their conditions, available treatment options, and how to actively participate in their own healthcare. People living with COPD have learnt to monitor their symptoms for signs of worsening, to take their medication and inhalers as prescribed, and to make other lifestyle adjustments. In both individual and group settings, it emphasised the significance of competent nurses providing patients with evidence-based information to help them feel empowered. The primary objectives of nursing education have always been to improve people's health, increase their longevity, and ensure that they adhere to their treatment plans (San et al., 2019).

Counselling Service: They are able to aid persons who are coping with long-term diseases in addressing the mental, emotional, and social concerns that are linked with these ailments through the process of counselling patients. Nurses are able to do this through the use of the counselling process. Those who participated in the COPD counselling programme were given individualised advice on how to deal with stress, how to make adjustments to one's lifestyle, how to seek emotional support, and how to continue taking their prescriptions. As a result of the fact that they were able to voice their concerns, receive responses to their enquiries, and gain knowledge from the process, they are ultimately able to feel more confident in themselves. (Chu et al., 2025) The key goals of the therapy system were to provide assistance to patients related

to their mental health, to encourage patients to take their prescribed medications, and to improve patients' physical health as well as their quality of life.

DEPENDENT VARIABLE

Enhance Medication Adherence of Patients with COPD: When we instruct people with COPD on how to use inhalers, oral medications, and other therapies in the recommended manner, it may increase the likelihood that they will follow the recommendations of their physician. In light of this, it is abundantly evident that it is of the utmost need for patients to adhere to the treatment regimens that have been constructed specifically for them. People who had COPD were required to take their medication at the same time each day and in the same quantity that their physician instructed them to take. Due to the fact that they did not follow the prescribed course of action, their symptoms normally became more severe, which resulted in an increase in the number of flare-ups, longer hospital visits, and an overall decline in the quality of their lives. With the assistance of coordinated support, which included patient education, counselling, and follow-up treatment, they were able to achieve the outcomes they desired and remain committed to the goals they had set for themselves. The most recent information, practical skills, and words of encouragement were provided to patients by those working in the healthcare industry. The objective of these professionals was to assist patients in experiencing a greater sense of safety and maintaining their dedication to their treatment (Bhattarai et al., 2020).

Enhance Quality of Life of Patients With COPD: COPD patients can have better lives if their physical, emotional, and social health are all improved. COPD is characterised by long-lasting symptoms such as fatigue, shortness of breath, and impaired exercise capacity. Because of these, being independent and doing daily tasks became more challenging. Because of their illness, patients had physical limitations and frequent hospital visits, which contributed to emotional suffering in the form of anxiety and sadness. People had to take measures to alleviate their symptoms, fortify their minds, and make things simpler for themselves in order to improve their lives. Patients gained knowledge about their conditions and self-care practices through their time in nursing school. Stress, inaction, and lack of emotional support were all alleviated through the use of counselling services. Improved symptom management, ability to carry out daily activities, and communication with loved ones were all outcomes of these therapy. When COPD patients prioritised their physical and mental well-being, they had improvements in quality of life, reduced healthcare utilisation, and improved long-term outcomes (Grygus et al., 2019).

Relationship Between Nursing Education and Enhance Quality of Life of Patients with COPD: People with COPD could really use nursing education programs that try to help them. People with COPD need to make changes in their lives, manage their symptoms, and stick to their drug regimens. Many patients have issues because they don't know what's wrong with them, don't use their inhalers correctly, or don't understand their treatment. Structured nursing

education can help fill this gap by teaching patients how to take care of themselves and giving them the skills and confidence they need to do so. Individualised education helps nurses show patients how to use inhalers correctly, stress the importance of taking their medications as prescribed, and encourage healthier habits like quitting smoking, eating better, and getting more exercise. People who have more control over their own health care get sick less often and don't have to go back to the hospital as often. Another common part of nursing school is counselling. It helps students deal with the emotional problems that come with COPD, such as worry, hopelessness, and feeling like they have no control over their lives. Patients' lives get better as their mental health gets better. Because of this, there is a strong link between nursing education and quality of life. Patients with COPD can benefit from well-planned educational programs in many ways, such as better health outcomes, more independence, less stress on the healthcare system, and more power (Peepratoom et al., 2020).

The researcher developed the following hypothesis, which examined the relationship between nursing education and enhance quality of life of patients with COPD, based on the discussion above.

"H_{01}: There is no significant relationship between nursing education and enhance quality of life of patients with COPD."

"H_1: There is a significant relationship between nursing education and enhance quality of life of patients with COPD."

Table 2. H1 ANOVA Test.

ANOVA					
Sum					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	39588.620	204	4315.620	1004.333	.000
Within Groups	492.770	295	4.297		
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 1004.333. This implies that the null hypothesis is rejected, and the hypothesis *"H_1: There is a significant relationship between nursing education and enhance quality of life of patients with COPD."* is accepted.

DISCUSSION

Participating in nurse education and counselling programs improved the quality of life and increased the likelihood of medication adherence for COPD patients in Hong Kong, according to this study. During the educational sessions, patients experienced a more thorough comprehension of their condition, the significance of maintaining a regular medication schedule, proper inhaler usage, and symptom management techniques. By reducing stress, providing a secure space for patients to discuss their issues, and motivating them to follow their

treatment regimens, counselling assisted with this. Better health outcomes and increased self-assurance were also displayed by patients who got planned instruction and individualised support. In addition to improving general health and making daily living easier, improved adherence decreased the chance of problems requiring hospitalisation. These findings demonstrated how crucial it is that nurses take the lead in treating COPD. In order to encourage greater involvement in their treatment, patients may be given information and advice. Their health suffered greatly as a result. Despite being an exploratory study, the findings suggested that structured nurse interventions could aid in the management of chronic conditions in comparable hospital environments.

CONCLUSION

This investigation demonstrated that patients with COPD in Hong Kong were able to adhere to their medications and lead more fulfilling lives as a result of nursing education and counselling services. Patients who received structured educational assistance gained a greater understanding of their condition, developed a more effective approach to managing their medications, and felt more assured about adhering to their treatment regimens. This process was further facilitated by counselling, which assisted patients in overcoming obstacles to adhering to their treatment plan, provided emotional support, and addressed emotional issues. The integration of counselling and education resulted in improved daily self-management, a reduction in symptoms, and an overall improvement in health. These findings underscored the significance of empowering patients to participate in their own care by ensuring that nursing interventions are accessible and consistent. The potential of nurse-led education and counselling as essential components of COPD management programs was emphasised by this exploratory study. The integration of these strategies into conventional healthcare services can help patients maintain long-term adherence, prevent unnecessary hospitalisations, and ultimately promote healthier, more self-sufficient living.

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