



## Person–Environment–Occupation Model in the Quality Improvement and Patient Safety Education: A Case Study

Natalia M<sup>1</sup>, Yang SL<sup>2</sup>, Chen YJ<sup>3</sup>, Tzu HH<sup>1</sup>, Liao CP<sup>1</sup>, Huang CH<sup>1</sup> and Chou YC<sup>4,5\*</sup>

<sup>1</sup>Department of Business Administration, National Chung Hsing University, Taiwan

<sup>2</sup>Chi Lau Lin Aged Care Co. Ltd., Taiwan

<sup>3</sup>Department of Orthopedics, China Medical University, Taiwan

<sup>4</sup>Department of Business Administration, Tunghai University, Taiwan

<sup>5</sup>Department of Psychiatry and Human Behavior, Warren Alpert Medical School, Brown University, USA

### Abstract

This study brings the case of Chi Lau Lin Aged Care Co. Ltd., an aged care located in central Taiwan, using the theory of Quality Improvement and Patient Safety (QIPS) education which has a vital role in developing healthcare professionals with the knowledge, abilities, and attitudes to improve healthcare systems. This study aims to explore and observe the situation in Chi Lau Lin using the three elements of people, environment, and occupation models to promote a better healthcare system that can be applied in its management system.

The Person-Environment-Occupation (PEO) model is formed from the interaction between people, environment, and occupation. In this study, the person is included in physical, psychological, cognitive, and spiritual. The environment consists of the built environment, natural environment, social environment, social system, and culture. While in occupation, there are routines, tasks, training, and activities. These three elements are interdependent variables and affect each other.

Chi Lau Lin creates a "dementia" home care service model and uses the professional training of program training in care practice, according to the care needs of individual cases and their individuality, the characteristic content of dementia care is summarized one by one, including physical assessment, spiritual care, care support, cognitive training, rehabilitation training, risk factor assessment, home environment risk, multi-drug assessment, and other interventional care.

This study resulted in a better understanding of how to care for the elderly, maintain an aged care environment to support quality and safety for residents, and also a sustainable system for aged care.

**Keywords:** Person-Environment-Occupation Model; Quality Improvement and Patient Safety; Nursing Home

### Introduction

Elderly are individuals over the age of 60 who generally have signs of decreasing biological, psychological, social and economic functions. Aging in the population certainly affects various aspects of life, such as social, economic, and health. Aging also causes the function of the body's organs to decrease due to natural factors or due to disease. When a person reaches old age, and the children have formed their own family, the responsibility to them is relinquished. She/he returned to being as accessible and independent as she/he had been in the early days of her/his marriage. The obligation to care for, finance, educate and supervise children is no longer carried out. But by the time freedom was obtained, she/he was already in a state of physical, biological, and psychological decline, and had lost her/his children from home.

Today's society has entered the era of modernization which naturally changes people's mindsets and attitudes. As a result of this change in mindset, many individuals have grown up with an individualistic perspective. Of course, this has a negative impact because it causes humans to feel content with themselves and do not need other people in their lives, even though humans were created as social beings who must actually interact with one another. But in this era, many people tend to compete to achieve their personal goals. When the younger generation brings perspectives, subconsciously they will focus more on themselves than their families. So that many older generations are getting less and less attention from their children and grandchildren. Families who

### OPEN ACCESS

#### \*Correspondence:

Ying-Chyi Chou, Department of Business Administration, Tunghai University, No. 1727, Sec. 4, Taiwan Boulevard, Xitun District, Taichung, 40704, Taiwan,

E-mail: ycchou@go.thu.edu.tw/  
ying-chyi\_chou@brown.edu

Received Date: 16 Feb 2023

Accepted Date: 02 Mar 2023

Published Date: 06 Mar 2023

#### Citation:

Natalia M, Yang SL, Chen YJ, Tzu HH, Liao CP, Huang CH, et al. Person–Environment–Occupation Model in the Quality Improvement and Patient Safety Education: A Case Study. *Clin Case Rep Int.* 2023; 7: 1504.

**Copyright** © 2023 Chou YC. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

are unable to care for them end up placing their seniors in a nursing home. Of course, this makes seniors feel left out when they have to be placed in a place with makeshift buildings and facilities. Sometimes, makeshift buildings and facilities make seniors feel uncomfortable and uncomfortable. However, often because there is no choice, the elderly feels compelled and unhappy, which can then cause health problems.

Based on statistical data for 2021, Taiwan has at least 3.8 million people aged over 65 years, and this number continues to increase every year. Some people perceive the existence of the elderly negatively and incorrectly. They consider the elderly as a burden to the family and the surrounding community. This may be caused by several cases that discuss cases of elderly people whose lives are very dependent on other people. Because of the dependency and helplessness of the elderly, it is concluded as a burden and a reason for certain families to send them to a nursing home, even being abandoned.

Chi Lau Lin Aged Care Co. Ltd., instead of calling itself a nursing home, Chi Lau Lin prefers to be called aged care located in central Taiwan. In contrast to the nursing home, Chi Lau Lin is a facility for parents whose families are still able to care for the elderly at home. Chi Lu Lin provides classes, activities, events, and delicious food for the elderly to enrich their knowledge and not stop learning.

In addition, Chi Lau Lin also prioritizes safety and environmental design in their facilities. That way, families can entrust their parents to Chi Lau Lin when they are at work or not at home. Of course, on certain sides, there are unavoidable places that might threaten the safety of the elderly. That place is the emergency staircase on one side of Chi Lau Lin. This will be discussed further in the next section.

## Literature Review

### Quality Improvement and Patient Safety (QIPS)

The theory of improving quality and patient safety, in general, is to encourage the implementation of service activities to patients that meet service standards, and safety and provide satisfaction to patients. In particular, to ensure that services are provided in accordance with medical and nursing service standards, as well as that services are provided in accordance with standard service standards, and patient safety and are carried out in an integrated manner according to patient needs. As well as seeking to improve service quality, patient safety and performance through increasing the ability to provide health services to develop a better monitoring system in service quality indicators.

Patient safety is an important element to improve the quality of health services, especially in hospitals as a form of implementation and reflection of the results of the competence of health workers, the availability of service facilities and infrastructure as well as management and administration systems in the service cycle for patients [1]. To ensure patient safety, healthcare organizations must be able to build systems that make the patient care process safer, both for patients, health workers, and the surrounding community (family, visitors), as well as hospital management. The patient safety system is intended to reduce risk, prevent the occurrence of injuries due to the patient care process, and prevent the recurrence of patient safety incidents by creating a patient safety culture.

Patient safety should be a culture in health services in health facilities. However, several cases still show that patient safety has not become a culture in their work environment. This can be seen in cases of malpractice, discrimination or other cases. Every health

profession should have a code of ethics which must be an aspect of implementing patient safety culture in their work environment. By adopting a good patient safety culture, you can minimize incidents related to patient safety. Harvard School of Public Health (HSPH) research (2011) states that of the 421 million patients treated annually worldwide, 43 million people are harmed annually due to treatment with side effects [2].

Currently, the issue of patient safety is one of the main issues in health services. Patient safety has become something far more important than just service efficiency. Various risks due to medical action can occur as part of service to patients. It turns out that the quality of service alone is not enough.

Health care facilities should always maintain the security of the service process for patients so that medical errors do not occur which affect the quality and service of these health care facilities. Patient safety is an effort to ensure that actions and activities in health care facilities carried out by health workers for patients are safe and do not cause adverse effects or impacts on patients that have been regulated in regulations. Patient safety is an important point in every medical action, both minor and serious medical actions. Based on research by Maghfiroh & Rochmah [3], patient safety has a major influence on the image, social responsibility, morals, and performance of health workers so patient safety is related to quality issues and the image of a health service, including nursing home or even aged care facility.

The aspects of implementing successful patient safety are as follows:

#### a. External environment

Hughes stated that the external environment is something that is needed for agencies to have a high commitment to implementing the quality of patient safety. Strengths that are biased and can make changes to the orientation of the agency, one of which is the motivation that comes from the external environment. External pressure in health agencies can come from the provisions in implementing the quality of patient safety, and competition in providing services, then one's awareness and lawsuits will increase [4].

#### b. Leadership

Hughes gives the opinion that a nurse who can play a role in changing leadership to implement patient safety will have an effect on changing the organizational structure which is expected to be more effective in implementing safety. Leaders are required to be able to understand that external pressure is an opportunity to make changes for the better. In institutional leadership without strong encouragement, patient safety will only become a motto [4]. Leaders can bring success or failure of quality management in the health care facilities they lead. Leadership must be one of the abilities that must be possessed by leaders to lead their organizations to continue to progress better and have positive improvements. It is important for leaders to develop their skills and demonstrate their commitment to quality and build the organization with their board, as well as set a clear direction for the organization. Leaders must also change their organization's value systems and ultimately organizational culture, policies, and structures to meet the needs of their employees and customers [5].

#### c. Organizational culture

Patient safety culture is the foundation of patient safety. Keywords

in improving quality and patient safety provide a change in patient culture from a blame culture to a safety culture. One of the strategies to develop a safety culture is to involve employees in planning and developing a safety culture.

**d. Management practice**

Lower, middle, and upper-level managers have the responsibility to implement policies and procedures that have been made and agreed upon together. Managers' support for the implementation of patient safety is a good thing and supports the success of the quality assurance program [6].

**Person-Environment-Occupation (PEO) model**

The Person, Environment, Occupation Model, is also known as PEO Model. The PEO Model was created by Mary Law et al. [7] in 1996. It is a transactional Model since it depicts the interrelationship between the Person, The Environment, and The Occupation. The PEO Model has 3 key concepts, Person, Environment, and Occupation. Their interaction results in Occupational Performance. The person is unique and has specific skills, experience, knowledge, interest, and roles. The person who is continuously developing is intrinsically motivated. The environment can be socioeconomic, cultural, institutional, social, and physical. Occupations are divided into three main categories: Self-care, productivity, and leisure. We participate in daily occupations for self-maintenance, expression, and life satisfaction [8]. As Occupational Therapists we assess the characteristics, duration, structure, and complexity of each occupation [9]. According to the PEO Model, function results from a good fit between the three key concepts. Law et al. [7] suggested that PEO should be interdependent upon one another, and created optimal performances for the individual in whichever contact they are performing their occupation.

The PEO Model was developed to provide a framework for delivering services that focuses on a client-centered approach. Previous research noted that the PEO model can be used to understand and develop person-centered interventions for people with dementia [10]. PEO factors reflect participation ability among residents and dementia. When the environment and occupation are adjusted to the skills of the person, participation is assumed to be successful.

In a previous study, Green and Cooper [11] indicated that the level function of residents was greatly influenced by the number and type of activities offered. Green and Cooper [11] succeeded in recognizing how PEO interactions play an essential role in the engagement of meaningful activities. The PEO Model can accommodate the limitations of residents, and staff, and be more flexible and creative when designing individual activities.

**Method**

This study uses the theory of Quality Improvement and Patient Safety (QIPS) education [12] which has a vital role in developing healthcare professionals with the knowledge, abilities, and attitudes to improve healthcare systems. In addition, by using the PEO Model, this study aims to explore and observe the situation in Chi Lau Lin using the three elements of people, environment, and occupation models to promote a better healthcare system that can be applied in its management system.

**Case Study: Chi Lau Lin**

Established in June 2015, Chi Lau Lin Co., Ltd. is committed to



Figure 1: Aspects of implementing successful patient safety.

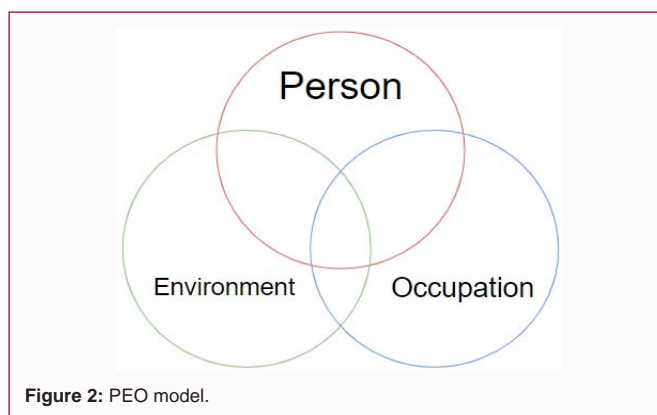


Figure 2: PEO model.

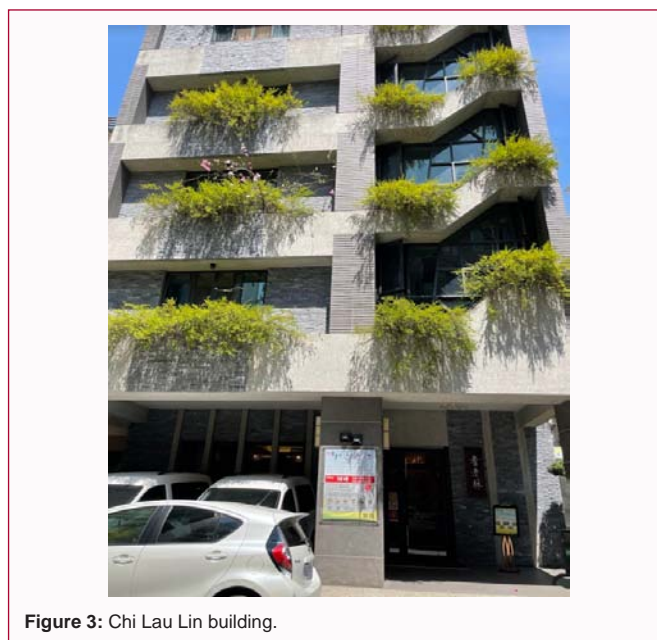


Figure 3: Chi Lau Lin building.

the third age group and the implementation of local aging, hoping that all people can have a dynamic, independent, and dignified old age.

With one-stop overall service (the concept of three stages and five levels of public health), Chi Lau Lin plans five major career directions, including colleges, associations, clubs, long-term care services, and



Figure 4: Chi Lau Lin class room.



Figure 5: Stairs.

restaurants, also links all stages of services to provide services for the third age group. People of all ethnic groups (or planning to prepare for the third age group), whether they are healthy, sub-healthy, demented, or disabled, can regain their enthusiasm for life and save their lives. Implement the vision of developing a corporate model of people-oriented, love-based, and practice a happy life and holistic care. Below are features that promoting by Chi Lau Lin:

#### Diverse courses

Because knowledge is constantly updated and infinitely changing, if we don't have a new understanding of ourselves and the space to surpass our own limitations, it will be difficult for us to have the ability and ability to regenerate learning. The most important thing in self-transcendence is to establish a good habit of lifelong learning.

The intervention of multiple courses can effectively encourage the elderly to participate in society and provide learning motivation. It is also helpful for the development of the elderly with dementia, and it

can also reduce the care pressure of the main caregiver.

#### One-stop integrated care

Through one-stop integrated care services and systematic resource links in the elderly industry, the difficulties and burdens faced by cases and their families can be solved.

#### Faculty lineup

Teachers in professional fields can provide continuous and effective guidance and services in dementia care, which can not only enhance the sense of achievement of seniors participating in the courses but also stabilize the emotions of the patients.

Chi Lau Lin creates a "dementia" home care service model and uses the professional training of program training in care practice, according to the care needs of individual cases and their individuality, the characteristic content of dementia care is summarized one by one from the visit process, including physical assessment, needs assessment. Assessment, case spiritual care, primary caregiver (including family members) care support, cognitive training, rehabilitation training, life story, and life course exploration, risk factor assessment, home environment risk, multi-drug assessment, and other interventional care.

#### Conclusion

This study resulted in a better understanding of how to care for the elderly, maintain an aged care environment to support quality and safety for residents, and also a sustainable system for aged care. In the future, it is hoped that other aged care homes or nursing homes can put forward the quality of patient safety and implement a good PEO model in an elderly care environment. Turning threats into opportunities, and changing the environment to be healthier for its inhabitants. That way, health facilities such as aged care and nursing homes will be able to become sustainable businesses.

#### References

1. Mark BA, Hughes LC, Jones CB. The role of theory in improving patient safety and quality health care. *Nurs Outlook*. 2004;52(1):11-6.
2. Jha V, Garcia-Garcia G, Iseki K, Li Z, Naicker S, Plattner B, et al. Chronic kidney disease: Global dimension and perspectives. *Lancet*. 2013;382(9888):260-72.
3. Maghfiroh L, Rochmah TN. 'Analisis Kesiapan Puskesmas Demangan Kota Madiun Dalam Menghadapi Akreditasi', *Jurnal MKMI*. 2017;13(4):329-36.
4. Hughes RG, editor. *Patient safety and quality: An evidence-based handbook for nurses*. Rockville (MD): Agency for Healthcare Research and Quality (US); 2008 Apr.
5. Mosadeghrad- AM. Factors influencing healthcare service quality. *Int J Health Policy Manag*. 2014;3(2):77-89.
6. Marquis BL, Huston CJ. *Leadership roles and management functions in nursing: Theory and application (5th Ed.)*. Lippincott Williams & Wilkins. 2006.
7. Law M, Cooper B, Strong S, Stewart D, Rigby P, Letts L. The person-environment-occupation model: A transactive approach to occupational performance. *Can J Occup Ther*. 1996;63:9-23.
8. Grant B, Erin G, Rachel L. "Fostering improvement in occupational performance through environment modification in skilled nursing facilities" (2020). *Critically Appraised Topics*. 6.
9. Strong S, Rigby P, Stewart D, Law M, Letts L, Cooper B. Application of the person-environment-occupation model: A practical tool. *Can J Occup Ther*. 1999;66(3):122-33.

10. Wong C, Leland, Natalie E. Applying the person–environment–occupation model to improve dementia care. AOTA’s Productive Aging Special Interest Section. 2018.
11. Green S, Cooper BA. Occupation as a quality-of-life constituent: A nursing home perspective. *Br J Occup Ther.* 2000;63(1):17-24.
12. Goldman J, Smeraglio A, Lo L, Kuper A, Wong BM. Theory in quality improvement and patient safety education: A scoping review. *Perspect Med Educ.* 2021;10(6):319-326.