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Review Literature to Create Knowledge About Innovations in Caring for The Alzheimer's Disease

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Abstract

This article is a literature review to create knowledge about innovations in inpatient care. By analyzing the innovative model in caring for the elderly with memory conditions, it was found that the application developed to care for the elderly in the condition of dementia in 4 forms, namely 1) Developing the app to help doctors in treating Alzheimer's patients. 2) Develop games to build knowledge and understanding in daily life. 3) An application to track the activities of the elderly. By using a smartphone 4) compile modules that increase the quality of life innovation in caring for the elderly with dementia in the past. Most of the studies were conducted in foreign contexts, while there were only a small number of studies in Thai social contexts and fragmented studies. Lacking to compile modules that increase the quality of life knowledge and innovations in the care of the elderly with dementia should compile a menu that can help in living according to important needs and needs. In the daily life of patients systematically, including 1) system menu for notifications about daily life such as medication and activities. 2) menu to track the elderly to prevent getting lost using smart 3) games menu to create knowledge and understanding in daily life, such as remembering people in the house, close relatives, friends, birthdays, weddings, ordination ceremonies, graduation days to increase potential The perception of the patient and the quality of life better.

Keywords: Innovation; Care for Dementia Patients

Introduction

In 2013, the United Nations determined that a country with a population aged 60 and over, 10 percent or 65 years old, increased by 7 percent. Thailand » Trat Province » It will become a complete elderly society, 28 percent of the National Economic and Social Development Plan No. 12 (2017 – 2021), Thailand said, is at greater risk of changing population structures to older societies. The population of workers decreased. The elderly have health problems that have lost brain capacity, also known as "dementia," a strategy to develop science, technology, research and innovation from the National Economic and Social Development Plan No. 12, 2017 – 2021. More than again on knowledge to develop their technology, the share of technology benefits, which has increased value, falls on the country's technology owners. Also, research and development investments are not enough to drive the country to an innovative society. The development of the National Economic and Social Development Plan No.12 focuses on strengthening the country's science and technology and increasing the ability to apply science, technology, and innovation. To create social innovation in reducing inequality and improving people's quality of life with technology. When mobile technology plays a role in inpatient care from the inter– home environment. Nursing & amp; Community The health app plays a role in collecting community health information and enhancing the efficiency of patient care. Public health practitioners, as clearly as the problem of caring for older people with dementia are urgent problems that authorities in Thailand's sector stress the importance of educating and developing innovations to help lighten the burden and facilitate careers with both family and public health personnel. This gives such patients a better quality of life.

In this research, the researcher reviews the literature that to create knowledge about new innovations in caring for the elderly with dementia. Which this research will fill the lack of innovation and enhance the quality of life of the elderly with dementia in Thailand to Meet the science, technology, research, and development strategies from the 12th National Economic and Social Development Plan (2017 – 2021) in the development of innovation and use to drive development in all dimensions. To upgrade the country's potential by focusing on bringing creativity and the development of innovations to create new things and drive fairness and reduce inequality by focusing on providing quality government services in terms for education and public health with integration in the work of academics

with other sciences such as science and technology Public health, communication arts, social science, political science and behavioral science collaborating with government agencies, the private sector, and community researchers in many areas many communities are ready to study and analyze data to answer research questions. Creating value for the benefit of academics, society, community and the nation at large.

Content

Analytical Framework

This study is a document analysis study. Reviewing the research articles related to knowledge new innovations in caring for the elderly with dementia from the electronic journal's database Science Direct and Emerald Management Database by using the search terms the Application Development with Alzheimer's patients and the quality of life. Relevant article IJCSI International Journal of Computer Science Issues, Computer Science, Journal of Alzheimer's Disease, International Journal of Smart Home, etc. published between 2013 – 2019 with contents dealings in to the 12 articles related to the said topic were used.

Table 1 Articles related to

Article	Journal	Objective	Definition
1. A Mobile Reminder System for Elderly and Alzheimer's patients (2015)	IJCSI International Journal of Computer Science Issues	Mobile phone technology plays a role. To monitor the patient's Different between the hospital houses and nursing applications with health Including using mobile phones to help gather information Community health for workers	Software use is key to the success of the application system. Health This study focuses on creating applications for phones. By operating system Android

2. Alzheimer's Disease Rehabilitation using Smartphones to Improve Patients' Quality of Life (2013)	IJCSI International Journal of Computer Science Issues	Rehabilitation efforts Of this disease focus Slowing the progression rate and improving the quality of life of patients by increasing their ability to participate in the surrounding environment and society In this regard, take advantage of the mobility and advanced communication features of the smartphone. To rehabilitate patients, AD cope has included modules that enhance the quality of life, such as wallets. Tagging calendar And exercise Module that combines sound memory training Help and exercise	Software use is key to the success of the application system. Health This study focuses on creating applications for phones. By operating system Android
3. iWander: An Android Application for Dementia Patients (2015)	IJCSI International Journal of Computer Science Issues	The management of non-pharmacological dementia is a burden to those who need to care for patients suffering from this chronic condition. Caregivers often need help with patients who have daily activities.	Tools that help improve the quality of treatment for dementia patients using a mobile application. The application "iWander" is compatible with devices running Android.

4. Android and Internet of Things (IOT) Based Alzheimer Care/Rehabilitation System to Monitor and Progress Patient Health Condition (2015)	IJCSI International Journal of Computer Science Issues	Mobile systems for Alzheimer's patients The smartphone application will be used to guide Alzheimer's patients to help with daily activities. The internet of things that IOT can do Play a key role in helping Alzheimer's patients And we will also target the close relatives of patients	Use the GPS function. Photos of family members The dog has an important role in helping patients. The device is used to detect the condition of the patient using wireless media. The main aim of this system is to create a working environment for patients. In the house and reduce costs Health and reduce the burden of health care professionals too
5. Android Based Assistive Toolkit For Alzheimer (2016)	Computer Science	Creating an application That can save the lives of Alzheimer's patients easily	Patient tracking via GPS
6. Alzheimer's Patient (Android –Based Application To Assist Doctor With Alzheimer's Patient (2013)	IJCSI International Journal of Computer Science Issues	Creating an application That can save the lives of Alzheimer's patients easily	Especially daily help is a medication
7. Android Activity Tracking Application for Smart Homes using Android Smartphone (2013)	IJCSI International Journal of Computer Science Issues	Developing applications for smartphones Android to help the elderly	Applications through web services and helping the elderly To do everyday activities It facilitates caregivers by tracking the elderly in their own homes and avoiding certain accidents. Besides, it also allows

			family members to keep track of activities whenever they go out
8. Helper System For Managing Alzheimer's People Using Mobile Application (2015)	IJCSI International Journal of Computer Science Issues	Development of assistive systems for managing Alzheimer's patients using mobile applications.	Including voice reminders, which can help remind Alzheimer's people to do daily activities in time While the caretaker can use the remote control directly and set up the smartphone at the Alzheimer's person and check back the activity history done by using a computer
9. Mobile App Development and Usability Research to Help Dementia and Alzheimer Patients (2013)	IJCSI International Journal of Computer Science Issues	Development of assistive systems for managing Alzheimer's patients using mobile applications.	This study focuses on knowledge work. Understanding and quality of life for people with dementia via technology using music
10. Intelligent Assistive Technology for Alzheimer's Disease and Other Dementias: A Systematic Review (2017)	Journal of Alzheimer's Disease	Systematic review by providing a complete and up-to-date IAT index which has been developed to help the elderly with dementia	Advanced technology and facilitates the successful implementation of IAT in standard care in a manner that is beneficial to patients and caregivers.
11. Patient Monitoring System Using Android Technology (2013)	International Journal of Computer Science and Mobile Computing	For consultation and conducting medical or remote treatment Telemedicine	This project describes the experience; How to use and focus on various designs that will be

			considered for telemedicine. In monitoring patients with an efficient system In this way, the patient's pulse will be measured
12. Smart Elderly Home Monitoring System with an Android Phone (2013)	International Journal of Smart Home	Design and development of a home monitoring system for the elderly (SEHMS) using a smartphone Android operating system	The development is a monitoring system that displays data collected from the system. Also, the concept of the remote panic button has been tested and used in this project using the same Android smartphone with a developed system. Elderly and chronic patients can stay in their own home freely with care facilities and confident in the knowledge that they are checking.

Study Method

Using document analysis on the main points, namely the use of technology to improve the quality of life of dementia patients by analyzing various articles in the study results and summarizing the study using tools such as frequency recording to count the number of forms Technology used in development to apply knowledge as a guideline for developing applications for amnesia patients in Thailand by compiling the application from the frequency mentioned in the article the most.

Study Results

The study of related research found that there are studies related to the development of applications for the rehabilitation of dementia patients in 2 areas which are (1) Quality of life (2) Using the application for rehabilitation of dementia patients

1. Quality of life there is a study of the quality of life of the elderly in 4 areas, namely physical, mental, social relations and environmental the quality of life of the elderly has a high positive correlation with the ability to perform daily activities of the elderly. The results of the study make it possible to see development opportunities. In the continuous care of the elderly and enhance their skills in self-management, such as the preparation of the project to prepare for the elderly both physically and mentally for changing health habits and increase the ability to take care of oneself in controlling the risk factors that will cause chronic illness. Reducing the burden of expenses in the medical center, also, there should be support for the elderly to have social activities or roles. Or more communities Especially the role of transferring wisdom to the next generation for the exchange of knowledge. That is useful to the younger generation, adding feelings of self- worth to the elderly as well and there are studies on dementia in the elderly in 2 issues, which are issues relating to the prevention of dementia in the elderly and issues relating to caring for the elderly with dementia

2. Using the application for rehabilitation of dementia patients and a review of research related to the use of applications for the rehabilitation of dementia patients, Find that the applications for the elderly are being developed in 4 forms, including.

1) Develop an application to help physicians in treating Alzheimer's patients using the application on a mobile phone to diagnose symptoms of Alzheimer's disease or early memory impairment and application development to help doctors treat Alzheimer's patients.

2) Develop games to create knowledge and understanding in daily life for Alzheimer's patients to solve basic reading and arithmetic problems every day for 6 months, MCI (mild cognitive impairment) is higher than before.

3) An application to track activities of the elderly by using a smartphone respected.

4) Collect modules that enhance the quality, take advantage of advanced communication features of the smartphone to rehabilitate patients. By developing and compiling modules that increase

the quality of life such as wallets, exercise calendars and training memory sounds helps exercise which is an integrated smartphone application that focuses on rehabilitation of Alzheimer's patient Initial results indicate that such systems help reduce the hassle of using other tools. There are exercises for personal rehabilitation. With a voice alert systems that can help remind Alzheimer's people to do daily activities in time. While the caretaker can use the remote control directly and set up from the phone to check the history of activities performed by Alzheimer's patients. By using computer evaluation and validation with easy-to-use functions application development on mobile devices and applications to help patients with dementia. By voice and Google voice synthesizer to guide weather alerts and notifications about medication.

There have been studies in the rehabilitation of this disease. By focusing on slowing the progress rate And improving the quality of life of patients by increasing the ability to participate in the surrounding environment and society to improve the quality of life of patients and improve their remaining abilities. The aim is to increase the ability to treat patients to participate in activities that are meaningful to the environment. And enjoy family activities as well as allowing patients to have a better quality of life.

Conclusion

From a research study on the creation of innovations for treatment and care for the elderly in dementia. In the past, the researcher has studied and examined the documents in the beginning and found that there are 4 application forms for caring for the elderly in the condition of dementia which is 1) Developing the application to help the doctor in treating Alzheimer's patients 2) Develop games to create knowledge and understanding in daily life 3) An application for activity tracking of the elderly by using a smartphone and 4) compile modules that increase the quality of life.

The previous research review showing a clear picture that there are still applications developed for the elderly with dementia in the context of Thai society. And no such innovation has been created by the collection of modules that enhance the quality of life of patients in the form of 3 menus. The design and application development should, therefore, be developed into 3 menu formats, including 1)

Applications to track about medication treatment and personal medical records Alert for further visits from doctors, 2) visual memory review, and 3) help to remember important events in the patient's life.

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