

Chronic illness management in COVID 19 era: An experience from primary care center¹Rubavinoth.²K Kumaran.S¹University Family Health Center, Divisional Hospital, Kondavil.²Department of Community Medicine and Family Medicine, Faculty of Medicine, Jaffna.**Abstract**

The COVID 19 pandemic questioned the continuous and comprehensive management of chronic illness. The new health guidelines and limited resources challenged primary care centers in their service delivery. A new local guideline become a timely need to overcome the challenges. This article is briefly narrating the local guidelines which was prepared by the University Family Health Center, Kondavil.

Key words

Chronic illness management, Primary care center, Local guidelines, Covid 19

Introduction

The chronic illness was defined by the centers for disease control and prevention for disease as conditions that last 1 year or more and require ongoing medical attention or limit activities of daily living or both (1). The long-lasting characteristic of chronic illness require continuous and comprehensive supervisions, observations and/or care thus primary care centers play an important role in chronic illness management (2). 165 articles that detailed 157 studies were included. There were few studies with Health Care Organization (1.9% of studies). In Sri Lanka, the primary care centers deliver the services as Out Patient Department (OPD) system (3).

University Family Health Center, Kondavil (FHC, Kondavil) is a primary care center which is associated with the Department of Community Medicine and Family Medicine, Faculty of Medicine, University of Jaffna located in the premises of Divisional Hospital, Kondavil, Jaffna. The FHC, Kondavil is sharing the building with Divisional Hospital, Kondavil. It has 200 registered patients under Non-Communicable Disease (NCD) clinic for chronic illness management. Analyzing blood parameters such as blood glucose level, total cholesterol, serum creatinine, blood pressure and anthropometric measurements have been used for screening test as well as follow-up tests, foot care for diabetic patients, weight reduction plan for obesity management and lifestyle modification towards healthy lifestyle are the services delivering under the chronic illness management. The FHC, Kondavil is providing palliative care for the geriatric population that who can't approach the center such as stroke patients.

In the latter part of 2019 COVID 19 infectious disease was reported in China and it became pandemic in 2020 (4). In order to prevent and/or control the spread to community, the World had locked down and new health guidelines were developed such as contact not exceed to 30 minutes, 1 meter distance maintenance, compulsory face mask and hand sanitation (5). This scenario challenged continuous and comprehensive management of chronic illness. Palliative care as

Corresponding author : Kumaran.S, Email: s.kumaran3@gmail.com ,  <https://orcid.org/0000-0002-5923-2573>, Submitted

February 2021 Accepted June 2021



This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License, which permits unrestricted use, distribution and reproduction in any medium provided the original author and source are credited

well as vital examinations for patients were stopped because of the fear about spreading the infection. That paved the way to 'Twin Epidemic' condition by developing complications due to sedentary lifestyle and missed clinical follow-ups (6).

Developing an effective chronic illness management plan at the primary care level according to the new health guidelines with the available limited resources is a timely need to provide the services. The success of the new management plan depends on user friendly approach of the patients and staff. Therefore, involvement of both staff and patients will help to develop an effective management plan for chronic illness which can be achieved by using Participatory Action Research (PAR) methodology.

The objective was to formulate an effective chronic illness management plan at primary care level during COVID 19 pandemic

Methodology

It is a situational based case study. The participatory action research methodology was applied to develop an effective chronic illness management system with the limited resources in the FHC, Kondavil. It is an approach in public health research where the researchers and participants work together for the betterment of their living community. It is a qualitative research method which has three major repeating actions – engagement, empowerment and reflection (7).

The study population is all the patients who are registered for NCD clinic in FHC, Kondavil and the staff. Patients who are registered under palliative care n=(20) were excluded from the study. The total population size was 180.

Purposeful sampling technique was used to select the sample of participants because of the limited resources and to collect rich and effective information (8). Therefore, expert patients were

selected for the patient welfare society as forum which has 9 members. All the staff (8) of FHC, Kondavil were selected as another forum. Routine clinical information was considered as the data for the research.

The sudden lockdown and the new health guidelines for COVID 19 not only became a challenge for the staff but engaged to find out the opportunities. The virtual focus group discussions were conducted with the staff and patient welfare society members via Viber and WhatsApp conference calls. They were empowered to find out the solutions for the action plan development. The reflection of implemented suggestions was taken as engagement to empower the staff as well as patients. The cock-screw cycles of engagement, empowerment and reflection were continued until developing an effective chronic illness management practice at primary care level in COVID 19 era.

Results and discussion

Brief discussion about the development of an effective plan for chronic illness management at primary care level during COVID19 era

The clinic was conducted as Out Patient Department (OPD) until March 2020 – before lockdown. In order to prevent the COVID 19 spread in community, the medications were delivered without doing vital examination in the clinic. Home delivery of the medications was arranged for infected locations. The effectiveness was reflected as poor in the management of chronic illness.

It became the 1st challenge and engagement to initiate an effective management plan. The OPD system had changed to an 'Appointment' system. Therefore, all 200 patients were divided into 4 major groups and each major group was divided into 4 minor groups to cover the clinic hours 8.am to 12 noon. A minor group with 10-15 patients were allocated per hour. The patients were

empowered by clearly explaining and pasting their time allocation as a sticker on their clinic record book. Also, telemedicine was activated in order to connect the services over the phone consultation. Thus, facilitates unplanned visits, satisfaction to the patients with the new appointment system as well as prevent congestion.

The 2nd challenge was how to provide a first line protection for patients as well as staff from the suspected COVID 19 cases visiting to the center. A handwashing tap system was arranged by the patient welfare society at the entrance of the center in order to facilitates the hygienic practices. Also, a triage system was developed at the entrance of the building. Health attender was trained to carry out the triage as well as patient's involvement was encouraged. The checklist of triage included temperature, symptoms and contacts with cases and suspected cases. The reflection of the pilot plan was discussed with staff and patient welfare society members of FHC, Kondavil. Patients involved

and developed a permanent triage system at the entrance of the center. That facilitates to prevent the community spread as well as routine works of the FHC, Kondavil.

The 3rd challenge was how to reduce the 'person to person' exposal time duration to avoid unwanted exposure for both staff and patients. This challenge empowered the staff to implement a plan for quick action not exceeded to 30 minutes with 1meter social distance. Therefore, the regular working station was separated for each tasks and time allocation was limited to maximum 10 minutes per station. The medications were already packed on the previous day of the clinic as individually and the outer cover was labeled with the particular patients' name, registration number and appointment time. That facilitates the quick move from the center and avoid unwanted long-term exposures. And it paved a way to run routine monthly follow-ups and drug delivery without fail.

Table 1: Separated work stations


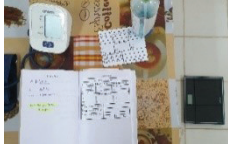
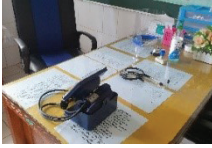









Stations	Station 1	Station 2	Station 3	Station 4 (if necessary)	Station 5
					
Actions	Marking the entry for the appointment and giving dates for next appointment	Taking anthropometric measurements and blood pressure checking	Doctor/consultation	Referrals for patient education about self-care and management at home level	Drug distribution
Maximum time allocation	5 minutes	5 minutes	10 minutes	10 minutes	5 minutes
Precautions	Using hand sanitizer after each exposure Wearing face mask, face shield and gloves (if necessary)				

Table 2: Main contents of the action plan

Challenge	Discussed solution	Reflection after implementation
<p>1. Congestion</p> 	<p>Appointment system and telemedicine</p> 	<p>Reduces the congestion</p> 
<p>2. Firstline prevention from infection and spread</p>	<p>Hand washing set-up at the entrance</p>  <p>Triage system</p> 	<p>Hand washing facilitates to follow the hygienic practice</p> <p>Minimize the entry of the suspected cases in to the center</p>
<p>3. ‘Person to person’ exposal time duration</p>	<p>Separated working stations and limited time duration (Table1)</p>	<p>Reduce the contact time for each patient with staff</p>
<p>4. Chronic illness complications development due to sedentary life style</p>	<p>Patient education</p>  <p>Free seeds distribution for organic farming at home</p> 	<p>Facilitates self-care and management at home level</p> <p>Enhance the physical activity and boost the immune system by getting fresh fruits and vegetables from the home garden</p> 
<p>5. Inadequacy of resources</p>	<p>Human resources- Defined roles, monthly meetings and worked together</p> <p>Time- patient’s waiting time utilize for education</p> <p>Space- Time tabled working days and working stations</p> <p>Finance- Get support from patient’s welfare society</p>	<p>Facilitates to develop a new local guideline for staff</p>

The 4th challenge was preventing the onset of chronic illness complication due to sedentary lifestyle. The patients were educated and facilitated to do self-care and management at home level. The patients were empowered to do organic home gardening by distributing free seeds as their leisure time activity. The training and inspection were facilitated by the agriculture inspector of the area. Also, the patients were encouraged towards the outcomes of the organic farming such as physical activity and boosting the immune system from fresh fruits and vegetables; in order to manage the chronic illness conditions as well as COVID 19 infection spread.

The 5th challenge was inadequacy of resources. The new health guidelines challenged human resource, time, space and finance to follow it. The available and limited human resources such as staff of FHC, Kondavil, staff from Department of community and family medicine, Faculty of medicine, University of Jaffna and the staff of Divisional Hospital, Kondavil are worked together with defined roles to manage the inadequacy of human resources. Monthly meeting was conducted to co-ordinate the human resources and manage the conflicts in work place. For time management, the patient waiting time for consultation was effectively used for group education about self-care and management. The available limited space was utilized by following the work stations and their time or day allocation (Antenatal clinic- Tuesday, Vaccination- Wednesday and Chronic illness management- Thursday, Friday and Saturday). Inadequacy of financial status was overcome with the support of patient's welfare society, especially for new set-ups like handwashing and triage system. This challenge facilitated FHC, Kondavil to prepare the local user-friendly guidelines for staff.

Conclusion and recommendation

The study can be concluded that, appointment system (avoid congestion), triage (minimize the

entry of infected cases), separated working stations (reduce the risk in the work place), self-care management at home level (prevent the chronic illness complication development) and proper resource management (overcome the inadequacy) at primary care level are the recommendation for an effective chronic illness management plan in COVID 19 era.

Conflict of interest

There is no conflict of interest.

Acknowledgement

Family Health Center, Kondavil staff Shanmuganathan.Y, Saseenthan.R.P, Sureshkumar.V, Ida.D and Thenuja.J and the members of patient's welfare society Balasingam and Gunabalan were acknowledged for their contribution and participation.

References

1. Centers for Disease Control and Prevention. (2019). About Chronic Diseases | CDC. Retrieved October 15, 2020.
2. Reynolds, R., Dennis, S., Hasan, I., Slewa, J., Chen, W., Tian, D., Zwar, N. (2018). A systematic review of chronic disease management interventions in primary care. BMC Family Practice. BioMed Central Ltd.
3. Perera, H. S. R. (2017). Case study from Sri Lanka primary health care systems (PRIMASYS- A report).
4. Chen, N., Zhou, M., Dong, X., Qu, J., Gong, F., Han, Y., Zhang, L. (2020). Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: a descriptive study. The Lancet, 395(10223), 507–513.
5. Ministry of Health (2020). The Analyst. <https://doi.org/10.1039/AN923480330b>

6. Azarpazhooh, M. R., Morovatdar, N., Avan, A., Phan, T. G., Divani, A. A., Yassi, N., Di Napoli, M. (2020). COVID-19 pandemic and burden of non-communicable diseases: An ecological study on data of 185 countries. *Journal of Stroke and Cerebrovascular Diseases*, 29(9), 105089.
7. Pynch, T. (2018). Participatory action research in health systems: a methods reader. *Educational Action Research*, 26(3), 496–497.
8. Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful Sampling for Qualitative Data Collection and Analysis in Mixed Method Implementation Research. *Administration and Policy in Mental Health and Mental Health Services Research*, 42(5), 533–544.
9. Senanayake, S., Senanayake, B., Ranasinghe, T., & Hewageegana, N. S. R. (2017). How to strengthen primary health care services in Sri Lanka to meet the future challenges. *Journal of the College of Community Physicians of Sri Lanka*, 23(1), 43.
10. Rajitha Senaratne, S. M. (2018). Prevention and Control of Noncommunicable Diseases Think Globally-Act Locally; Lessons from Sri Lanka- A report.