

CASE REPORT

Challenges and Constraints in Conducting the Field Residential Posting (FRP) during COVID-19 Pandemic: a Case Study.

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Abstract

The field residential posting (FRP) is experiential learning that enables medical students in the RCMP to develop skills in community diagnosis and to plan intervention programs to address health issues in the community. Due to the COVID-19 pandemic, students posted in the community must abide to strict standard operating procedures (SOPs) set by the government. At the community diagnostic stage, the key informant interview and focus group discussion took place both at the community meeting location and by telephone. The sample survey was largely conducted using a web-based application (Google form). The intervention program was planned according to the ranking of problems using the nominal group technique. To avoid crowds, the intervention was divided into several activities that use different times and locations. With the limitation and constraints, the FRP is still able to impart some good knowledge and experience to the students. The program applied different types of learning required for developing attributes for future physicians such as experience, collaboration, participation, technology, involvement, and community. The COVID-19 pandemic enabled medical students to gain knowledge and information and participate in community events. However, given the constraints they encountered during the FRP, they will be stronger to face the reality of the future.

Keywords: Field Residential Program, Royal College of Medicine, COVID-19, challenges, constraints.

Introduction

Public health is a discipline aimed at protecting and improving the health of individuals and their communities. People's health will be fostered through healthy lifestyles and community health will be preserved through the control of the determinants of health.^[1] In the teaching of public health to the health providers and professionals, they must be exposed to the complex interaction of determinants of health that include the genetic, sociocultural, and environmental factors in the community settings. In Universiti Kuala Lumpur, Royal College of Medicine Perak (RCMP), medical students will be exposed and experienced the public health activities in the selected community which is called Field Residential Program (FRP).

The purpose of the FRP is to provide students with an understanding and experience in important aspects of public health practice. A group of students (20-30 students) are assigned to a selected village or housing areas to make a community diagnosis using rapid appraisal technique, prioritize the health problems and conduct a community survey on the selected needs of the community. Based on the results, students are expected to plan and implement the health promotion program to deal with the problems.

However, the COVID-19 pandemic has tremendous effect on the teaching of public health due to restricted movement order (MCO) and strict standard operating procedures (SOP) enforced by the government to curb the pandemic. This paper will highlight the challenges and constraints faced by one of the FRP during this period.

Case Study

FRP is a community-based program, of which a group of medical students in the third year of the medical program spends 2 weeks in the selected community in Perak to study the needs of the

community and implement the health intervention program to address the issue. The assignment was discontinued in 2020 due to the Movement Control Order (MCO) to minimize the spread of the COVID-19 pandemic. In March 2021, the government imposed the conditional MCO, which allowed certain movements of persons within the district in accordance with strict standard operating procedures (SOPs). The faculty has allowed the posting to convene, subject to strict adherence to SOPs. Students were not allowed to stay in the community, instead they must commute from their place of stay to the housing areas in Chemor in a group of less than five and at the different time schedule.

A group of 36 students was assigned to do the FRP in Taman Chemor Idaman (TCI), Kinta District, Perak. The TCI is in the vicinity of a town of Chemor located about 22.8 km from Ipoh. It is a fast-growing township with many urban amenities and industrial areas with manufacturing factories. It has a population of 2000 people with 500 houses. This case study will highlight the experience of this group of students working on the project during the COVID-19 pandemic.

Teaching and supervision

Theoretical basis of the program was given through video conferencing, supervision by the teacher was made mainly through video-conferencing and social media application.

FRP organization

The program is headed by a group leader assisted by a high committee and two subcommittees, namely the community study and the health campaign. All students have been assigned to the committees with clear roles and responsibilities. Since no formal meeting were allowed during MCO, most of the communication was done through video conferencing application TEAM and social media especially WhatsApp.

Community diagnosis

This is the process of evaluating the health status of the community, including the determinants of health such as socio-economic conditions, disease prevalence and risk factors. Rapid appraisal techniques such as secondary data analysis, key informant interviews, focus group discussions and observation are used to collect data and information.

- i. **Secondary data analysis** – Data were collected from the local health clinic and the district health office on the health problem in the district and sub-district. Most of the information was received via online communication.

Findings:

The infant mortality rate in 2020 in Kinta district was 6.8 per 1000 live births and maternal mortality rate was 9.8 per 100,000 live births, indicating better overall health status and maternal care in the district. Dengue cases have risen significantly from 71 cases in 2018 to 317 cases in 2020. Tuberculosis cases also has increase gradually, from only 4 cases reported in 2018, gone up to 13 cases in 2019 and 17 cases in 2020. There were 207 cases of COVID-19 between March and December 2020, and this number continues to increase daily in the Chemor and Kinta districts. Data on non-communicable diseases (NCDs) are not available.

- ii. **Key informant interview** – the interview was conducted in person or by telephone. Five TCI representatives were selected to be interviewed. They were the leader of Kelab Rukun Tetangga (KRT), senior resident, women's representative, Imam Surau and the Chinese representative of TCI. The information obtained includes the history of the residential area, local culture, facilities, organization of the community, community activities, their perception of health status of the residence, problems and issues faced by the residents.

Findings:

- a. TCI is a multiracial community, but the neighborhood in the residential area is friendly and supportive. Strong community involvement in festivals and community activities.

- b. The most common problems with the residence were stray dogs.

- c. Dust from the neighbouring ceiling plant polluted the air in that area.

- d. Bad smells from the nearby barn and swine farm.

- e. The community aware of the threat of COVID-19 and almost all follow the SOP enforced by the government including registering for vaccination.

- iii. **Observation of the surroundings and environment** – TCI is composed by 500 terraces and semi-detached homes. Facilities available within TCI include surau, stores, playgrounds, football field, recycle bin and sewage treatment plant while the police station, school, community hall was located nearby.



Students have seen that many stray dogs roam the areas and scatter waste. In some places, the drains were clogged and soiled. Rubbish dumping was also a practice of some irresponsible residents. They could smell the bad smell coming from the barn and the swine farm in the vicinity.

iv. **Focus group discussion** – Seven (7) adults in the community were selected with the assistance of the head of KRT. The purpose of this FGD is to get more information and details on the specific issues raised by the key informants, by observation and analysis of the secondary data. These are some of the questions that have been developed for the stray dogs, air pollution from ceiling factory, bad smell from the pig and cow farm and dengue case issues.

- Why and how it happened?
- What kind of problems has been caused by these issues?
- Any health problem that arises from this issue?
- Any action has been taken to overcome this problem? If any, is there any improvement?
- Any suggestions on how to overcome this problem?

Findings:

- a. The dogs came from a nearby factory and some owner in the residential areas. The numbers have been growing in the last 8 years and causing nuisance to the community. There was an incident when the resident was bitten by the dog and admitted to the hospital. These stray dogs making a loud noise at night, scattering the trash, and littering the street and fields. Residents have repeatedly reported this issue to the authorities for the disposal of animals, but animal lovers have strongly opposed it. It has been suggested that residents and local authorities need to work together to catch dogs and return them to animal service.
- b. The factory has been operating here for 30 years, making the plaster ceiling. The residential areas have been developed to be close to the factory and exposed to the dust produced by the factory. The white dust will stick to furnishings, cooking utensils, tiles, glass, and cars. However, to date, no health issues have been reported because of the dust. The community brought the issue to the

attention of the authority, but no concrete solutions were developed. Residents overcome this problem by regularly cleaning their homes, closing windows and doors so that dust does not enter the house. Relocation of the plant is the best long-term solution to this problem.

- c. The pig farm operated before the development of the residential area 20 years ago. It is located approximately one kilometer from the housing area. On the other hand, the cow farm operated about 7-8 years ago and it is in the outskirts of the housing area. The two farms emit a bad smell, especially in the morning and after the rain. The community brought the matter to the attention of the authority, but no action was taken. Although no health problem has been reported due to this issue, the smell really affects their comfort and quality of life. It was suggested that the farm should be moved away from residential areas.
- d. Dengue fever has been endemic in ITC for several years. Although the Communication for Behavioral Impact (COMBI) program was introduced to control the disease in this community, the number of cases is growing every year. Annually, 2 to 3 cases of dengue will be reported to TCI. No deaths have been reported because of dengue disease to date. Sources of dengue were thought to be from clogged drains and irresponsible waste dumps. The actions taken so far were gotong-royong and dengue campaign by the Ministry of Health and City Hall.

Prioritization of health problems

Using the rapid assessment technique, some of the health issues pertinent to the community were identified. However, given limited resources such as capital, human resources and time, these issues should be prioritized. Students will have the

opportunity to carry out a health campaign to tackle the problem. The nominal group method was selected. In this technique, the list of health issues identified using rapid appraisal will be ranked by all the students individually based on criteria that has been set earlier by the group. The group selected time, visibility, involvement, environment, and opportunities as the criteria for ranking issues. Table 1 presents a ranking of health issues by nominal group. Students were assigned a score of 1 to 5 based on decreasing disease importance. The lowest total number is expected to be the highest. Consequently, the dengue issue was selected for the health survey and campaign.

Community survey

Dengue fever is an important issue in Malaysia, as the incidence of the disease is increasing every year, despite the aggressive intervention of the Ministry of Health and local authorities. Since the incidence of dengue closely related to the behaviour of the people, a community survey was conducted in TCI to determine the level of knowledge, attitude, and practice of dengue prevention among residents. A total of 132 respondents aged 20 years and over, conveniently selected from TCI, one person per household to become a sample for the study. Questionnaires on the knowledge, attitude and practice of dengue prevention were distributed to samples by WhatsApp and responses received in similar ways or through home visits. Data was analyzed using SPSS program.

Main findings.

- a. Out of 132 samples, 54.5% were females and 75.8% were Malays. Most of them had tertiary education (50%) and currently working (52%).
- b. 12.1% had an infection before.
- c. 56.1% of the respondents in TCI have good knowledge of dengue however 72.7% have poor attitudes towards handling dengue and 54.5% have poor practice in preventing dengue transmission.

d. 77.3% believed that everyone in the community is responsible for clearing Aedes breeding sites and should not rely on healthcare workers and volunteers only.

e. The most common practices to prevent dengue are eliminating stagnant water in buckets and puddles (97.7%), routinely get rid of trash (97.7%) and by cleaning the drain (94.7%), however only 43.2% of the respondents routinely check their water tank and flower vase.

Health campaign

The findings from the survey help students to plan and implement the health intervention program to improve the attitude and practice towards dengue prevention and encourage the practice of maintaining a clean environment.

Activities of the campaign include

- a. Disseminating health information on dengue through brochures during 'bubur lambuk' event. This porridge was prepared by the residents and students for breaking fast in Ramadhan. The event creates strong rapport between students and residents apart from disseminating health awareness on dengue.
- b. Brochure distribution at Surau in TCI. The brochures were given with 100 packs of goodies containing bread, milk, and dates after trawih prayer. This brochure is specifically design by students to include essential knowledge on dengue fever, its transmission and its prevention as well as on-line reference (website) and video (youtube) using quick response or QR code.
- c. 'Gotong Royong' to clean and remove possible breeding places for Aedes mosquitoes in TCI.
- d. Dengue Awareness Health Exhibition (DAHE) for the children. The awareness should start in a younger age group to inculcate a good attitude and practice in dengue prevention.

- e. Debriefing of health campaign to the village's representatives.

Evaluation of the campaign

Process evaluation was conducted for the campaign. During this campaign, 150 brochures have been distributed to the community in TCI through 'bubur lambuk' event and surau in the residential areas. 40 people participated in the gotong royong activities, and 20 children involved in DAHE. No impact evaluation results were reported.

Challenges and constraints

In this FRP, students face with several challenges and constraints that require resources adjustment and perseverance. This real-life situation will make them appreciate more the influence of health determinant on the occurrence of disease and motivate them to apply the principle of prevention in addressing the problem. The challenges and constraints include.

- a. The month of Ramadhan – most of the residents were Muslim and practicing fasting for the whole month. Health campaign on daytime may not be attractive to them.
- b. The working population – most of the residents were young working people who spend more time in the office or working places during daytime.
- c. COVID-19 movement control order (MCO) – the pandemic has restricted the movement of residents and students to join the meeting, gathering and social activities.

Discussion

This case study highlights several important educational issues related to public health education for RCMP medical students during the COVID-19 pandemic.

Experiential learning

FRP is a training method used by many educational institutions to instill a sense of

responsibilities among their trainee to the target communities. The method includes observing the life and the environment of the community, identify their needs and factors influencing it and participate in the activities that addressing the needs.^[2,3] In this case study, medical students are given an opportunity to experience the process of making a community diagnosis through observation, rapid appraisal techniques (secondary data gathering, key informant interview and focus group discussion), prioritization of needs, community survey and implementing the health intervention. They also experience the limitations on program delivery during a pandemic. The success of the program will depend very much on the resourcefulness of the students and guidance from the mentor of the program. Similar training method had been used in other settings. The exposure of biomedical students in USA to underserved and low resource setting confers valuable experience in learning disease etiology, disease management, cultural competencies, translation of basic sciences to disease prevention. Long term outcomes of the program such as involvement of the participant in voluntary services in the community or joining the health care services in the community after graduation will depend on student's attribute toward community and lesson learned from the field training.^[4] Tel Aviv University has adopted a field training in public health as a competency required for the medical graduate.^[5]

Participatory learning

FRP has a characteristic of a hand on experience in communicating with authorities, leaders in the communities and the people, negotiating on the resources used to tackle the needs and empower the community to implement the health intervention in addressing the unmet needs of the communities. In this case, students had opportunity to participate in the community event such as preparing meal and sharing with other people, attending trawih prayer at surau, participate in gotong royong to clean the drain and

rubbish dump and interacting with the people during a survey. The COVID-19 pandemic did not prevent their participation in community activities if the SOPs were maintained. Similar experience was shown by Community Action Research Track (CART) program that was developed by medical schools in USA. The program aims to integrate population medicine, health promotion/disease prevention and the social determinants of health into the medical school curriculum through community-based participatory research (CBPR) and service-learning experiences. This participatory learning program has been shown to significantly improve the mean knowledge of students in public health, increased student's satisfaction to CART and improved their communication skills.^[6] Community-based participatory research (CBPR) in USA has reported favorable attitudes of medical students on the program, their mentors, and the community. Students research knowledge were also increased significantly and able to deliver comfortably the formal research presentation.^[7]

FRP requires team effort and good group dynamic among students and create strong bonding between students and the community. This project-based program will develop a strong problem-solving skill, decision making skill, health economic and social entrepreneurship focus among medical students. In this case, students were expected to work in group and subgroup to perform a task of developing a plan for the whole project, conduct the rapid appraisal and community survey, plan and implement the health campaign, monitor, and evaluate the program. Although face to face meetings were minimized, the used by video conferencing application were encouraged to maintain social distancing. The short-term outcome of the program and level of satisfaction among students and the community toward the program will depend on the teamwork and collaboration developed. The ability to lead and work in team is an important attribute for the doctor in the health care team. These attributes can be obtained

through experience in a project under the supervision of teaching staff. Therefore, medical students are expected to develop skills to deal with and resolve conflicts, learn to share leadership, take mutual responsibility, and discuss their performance.^[8,9]

Blended learning

FRP has combines face-to-face learning and e-learning together for effective delivery and limit the physical contact during COVID-19 pandemic. The presence of pandemic has facilitated the use of technology to assist learning process (e-learning or web-based learning). The basic knowledge on public health and developing the proposal of the program was given through video conferencing by lecturers in RCMP and Ministry of Health (MOH). Supervision by the teacher in the field was made mainly through social media application. Data collection in community survey by students was done through on-line application. Health campaign activities were implemented by face-to-face but in small scale to avoid overcrowding. Similar situation faced by medical students in other country such as Philippines. Although the on-line learning improved the accessibility of information and able to enhance the learning process, students frequently encountered difficulty in adjusting the learning styles, having to perform at home, having poor internet connection and poor communication between students and educators.^[10] Many American Universities adopted the use telemedicine during the COVID-19 pandemic to continue providing high-quality medical education while maintaining social distancing policies.^[11]

Community-based education (CBE)

FRP is a community-based program that provide a learning experience for medical students in the community as the means of achieving educational relevance to community needs and as a way of implementing a community oriented educational

program. The learning activities involved the community extensively as a learning environment in which students, teachers, members of the community, and representatives of other sectors get actively involved during the educational experience. Similar experience by the Gezira medical school of Egypt have shown that most of students involved in the community project agreed that their communication skills, teamwork, and leadership skills had improved.^[9] In systematic review of CBE in Japanese medical schools has found that medical trainees who follow a CBE program reported satisfaction with the content, teaching processes, and teachers' qualities. Their attitudes toward community and rural medicine also improved of which many were motivated to become family physicians and work in communities and remote areas. Indirectly, the finding reflected that community involvement in CBE had an effective impact on medical trainees on their perceptions, knowledge of community health and their attitude toward community and rural medicine.^[12] The COVID-19 pandemic is a challenge and an opportunity for the medical students to learn the prevention of disease in difficult situations and environment. Experience in the actual situation can develop strong physician attribute in the future.

Conclusion

FRP in RCMP is an example of a program that provide experience to future doctors in promoting health for the prevention of disease in the community. The program has applied different types of learning essential for the development of

attributes for medical graduates such as experiential, collaborative, blended, technology-based, participatory and community based. COVID-19 pandemic has provide more challenging experience for the medical students to acquire the knowledge, information and participate in community events. However, with the constraints that they encountered during the FRP will make them stronger in facing the reality in the future.

Conclusion

The study has shown that half of the obese person in this study did not aware or felt that they were obese. Quite high percentage of them had poor perception on lifestyles and did not practice healthy lifestyles to prevent the disease and its associated morbidity. A study with bigger samples size is needed to confirm the relationship and come up with innovative program to prevent the disease.

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Table 1. Ranking the health problems using nominal group technique.

Nominal score - FRP KINTA (Taman Chemor Idaman)					
Name	Issues score (1-5)				
	Odour pollution from pig and cow farms	Stray dogs	Air pollution from factory	Dengue	COVID-19
Abdul Hakim	5	2	4	1	3
Amnan Haziq	3	3	4	1	2
Amni Amirah	5	3	4	1	2
Anisatun Naqiyyah	1	2	4	2	3
Badrul Muazzin	5	3	4	2	1
Erly	5	3	4	1	2
Hani Houriah	5	4	3	2	1
Khairunnisa'	5	3	4	1	2
Ariff Hakimi	5	2	4	1	3
Arifin	5	2	4	1	3
Zarif	3	4	5	1	2
Nasrul Amin	5	3	4	2	1
Adibah	5	3	4	2	1
Fatini	2	1	4	3	5
Husna	1	2	4	3	5
Izzati Atiqah	3	4	5	1	2
Nadhirah	4	5	3	1	2
Nisha	3	4	5	1	2
Qurratuaini	5	4	3	1	1
Ezzah	5	4	3	1	2
Insyirah	4	3	5	1	2
Rachel	2	1	4	3	5
Syabila	5	4	3	2	1
Syaika	4	5	3	1	2
Afnan	3	4	5	1	2
Aisyah	4	5	3	1	2
Alia Nabila	4	5	3	2	1
Amira Natasha	4	5	3	1	2
Amirah Syahirah	4	3	5	1	2
Ashraf	4	5	3	1	2
Farah Aisyah	5	4	3	2	1
Hanan Auni	4	5	3	1	2
Intan	5	4	3	1	2
Irdina	4	3	5	1	2
Izzati	5	4	3	1	2
Jasdeep	4	5	3	1	2
TOTAL	145	126	136	50	77
PRIORITY	5	3	4	1	2



Figure 1. Health campaign activities

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