Splitting Teams at a Hospital Pharmaceutical Care Services during COVID-19 Pandemic: A Tertiary Hospital Experience in Saudi Arabia

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Abstract

Background: The cautionary procedures of COVID-19 indicate the importance and urgency of preventing “community transmission” in the overall pandemic control. Pharmacy professionals are considered essential partners in response to the ongoing COVID-19 pandemic. Hospital pharmacies are expanding services and providing essential services, putting pharmacists and their co-workers at the frontlines for patient care and safety to improve the public health. Objective: The objective was to provide a guidance on minimizing pharmacy staff at risk of COVID-19 exposure and serve as emergency preparedness in case of mass staff infected with COVID-19 pandemic within the department. Setting: This study was conducted at Pharmaceutical Services Administration at King Abdulaziz University Hospital, Jeddah, Saudi Arabia. Methods: An instructional intervention using an electronic survey and summarization of the experience during the COVID 19 outbreak in a hospital pharmacy setting. We analyzed and discussed the methods and strategies that pharmacy settings and pharmacists should use to provide pharmaceutical care during the pandemic crisis. Main Outcome Measure: The outcome measures include staff perception and acceptance for splitting teams at pharmaceutical care services during the COVID-19 pandemic. Results: A total of 119 electronic surveys were distributed to the pharmacy staff and responded by 102 pharmacists and pharmacy technicians. All the study participants agreed on two group system which includes working-week-week-off. However, only three participants chose a full-team monthly roster. All participants agreed to be ready for work in their week-off as on demand. Furthermore, they all agreed to strictly follow the preventive measures of wearing masks and physical distancing. Furthermore, they gave permission to the administration to review the working schedule every 2 weeks to either continue the same way or to back to the full-team scheduled monthly roster. Conclusion: During the COVID-19 outbreak, the pharmaceutical services provided valuable pharmacy functions and care considering that we work into two teams and, yet, we are united in one mission and objective. Through these services, pharmacists have presented their professional competence, dedication, and responsibility to patients, other health-care providers, and society.

Keywords: COVID-19, pharmaceutical services, pharmacists, Saudi Arabia

INTRODUCTION

On January 31, 2020, the World Health Organization (WHO) declared that severe acute respiratory syndrome coronavirus-2 as epidemic “public health emergencies of international concern.” At present, confirmed COVID-19 cases have been reported in many continents including Europe, North America, Oceania, Africa, and Asia. The WHO has characterized it as a pandemic on March 11. It is clear that COVID-19 pandemic has become a public health catastrophe that needs worldwide attention and collaboration.[1]

The Ministry of Health confirmed the first case in the Kingdom of Saudi Arabia during the COVID-19 pandemic spread to Saudi Arabia on March 2, 2020. At present, we are noticing the continuous rise and reaching 70,000 plus confirmed cases,
which is the highest among the Arabian Gulf States with 41,000 recoveries and 379 deaths.[2]

The cautionary procedures of COVID-19 indicate the importance and urgency of preventing “community transmission” in the overall pandemic control.[3] Pharmacy professionals are considered essential partners in response to the ongoing COVID-19 pandemic. Hospital pharmacies are expanding services and providing essential services, putting pharmacists and their co-workers at the frontlines for patient care and safety to improve public health. There are increasing opportunities and recommendations that should be raised upon to provide improved patient care and population health interventions, in addition to ensuring health-care worker and public health safety.

King Abdulaziz University Hospital (KAUH) is a tertiary level and teaching hospital in the western part of the Kingdom of Saudi Arabia, with a bed capacity of more than 800. The pharmaceutical services administration (PSA) has a total of 119 staff members actively working in different pharmaceutical services provided including inpatient, outpatient, sterile preparation, extemporaneous compounding, chemotherapy administration, and clinical pharmacy practices. The pharmacy roster is issued as a monthly schedule with a maximum of 40 h per week for each employee. With the COVID-19 outbreak, the risk of spreading the infection among the staff member is a big concern, and an instructional intervention should be applied to manage this concern.

Aim of the study
This study aimed to provide an option on minimizing the pharmacy staff at the risk of COVID-19 exposure and serve as emergency preparedness in case of mass staff infected with COVID-19 pandemic within the department. We share our experiences with the national and international hospital pharmacy during the COVID-19 pandemic on managing different pharmacy services.

Ethics approval
Ethical approval is not needed for this study since this is an instructional intervention study and no patient data collection was required.

Methods
An instructional intervention using an electronic survey was distributed to all pharmaceutical service employees at the KAUH. We targeted all the 119 employees to fill up an electronic form using Google forms to indicate their perception toward splitting into two teams to cover the pharmacy services during the lockdown of COVID-19 pandemic. Each team will work continuously for 7 days from Sunday to Saturday in order to minimize the risk of outbreak among the staff and avoid the risk of shutting down the services. Each team was composed of one administrator, three supervisors, five clinical pharmacists, 18 hospital pharmacists, and 38 pharmacy technicians.

We included all the day-shift staff members (day shift defined as 7 a.m.–3 p.m.), as the afternoon (3 p.m.–11 p.m.) and evening (11 p.m.–7 a.m.) shifts will remain with the same minimal workforce needed to provide the services. Descriptive analysis was used for the collected data, and summary of the experience was structured as a guidance.

Results
A total of 119 electronic surveys were distributed to the pharmacy staff and responded by 102 pharmacists and pharmacy technicians. All study participants agreed on two group system which includes working-week-week-off. However, only three participants chose a full-team monthly roster. All participants agreed to be ready for work in their week-off as on demand. Furthermore, they all agreed to strictly follow preventive measures of wearing masks and physical distancing. Furthermore, they gave permission to the administration to review the working schedule every 2 weeks to either continue the same splitting pathway or to back to the full-team scheduled monthly roster.

Consequently, the PSA structured an intervention to serve as a guidance for hospital pharmacies to manage an epidemic outbreak and keep serving the customers with taking into consideration the safety of the pharmacy staff members.

Revision of staffing rosters
The PSA at KAUH is operational 24 h 7 days a week; each staff is working in shifting schedule usually work between 8 h a day, 5 and 6 days per week. During the COVID-19 pandemic, the PSA actively adjusts the operation process according to the cautionary procedures through implementing a new roster approach by restructuring and splitting teams/shifts in order to create an error-free environment for the department, considering a 1-week off recharge for each staff; it results in our workforce becoming more productive and work efficiently.

During this period, pharmacy administrators implemented revision of staff roster and splitting of teams to ensure the separation of critical personnel in order to limit joint exposure and protecting the pharmacy functions. They initiated a pilot study to allocate the staffs into two teams and will have weekly schedule as well a week-off afterward. Each team composed of one administrator, three supervisors, four clinical pharmacists, 18 hospital pharmacists, and 38 pharmacy technicians. First, there is considerable hesitation if this plan will accept by the staff since the maximum working hour policy is 40 h, and by implementing this, it will vary to 56 h instead. For the first 3 days on continuous duty, the primary reaction by staff was on how to cope up with the strenuous work demand, but unexpectedly, majority of the staff agree to take this in effect on the next roster.

It is recommended that when you are putting a different rota together, you need to think about the following questions: Do we have the right number of staff, supervisors, and managers? Are all our time slots and shifts covered? Have we planned appropriately for our busiest periods? Are we compliant with the hospital policy? What happens if someone calls in sick or got infected?
At the same time, through this effective scheduling, it allows the department to empower their employees, become more productive, and maintain to deliver quality services to the admitted patients. The scheduled rota can vary dramatically across the hospital and through different times of the week, month, or year. A good rota is more than about just having staff on hand, but it is about making sure you have the right staffing levels with the right experience to fit the institution needs. You need to strike the right balance to make sure you have enough staff in place to deliver quality services during busy times while ensuring staffing levels are kind to budgets during quieter times.

**Cross-train and identify alternative sources of workforce**

Staff are continually evaluated and assessed based on their performance and adaptability toward to their assigned duties on different pharmaceutical services. On this incident, it is flexible for the pharmacy deputy director on daily operation to distribute each staff on different pharmacy areas including the sterile section. Staff assigned on this area ensure that they are certified, competent, and continually updated with the current hospital standards and protocols. Furthermore, duty officer and senior staff are parts of the shift to guarantee the workflow is in place and quality of work is not on compromise.

Hospital pharmacies shall perform whole staff training to provide pharmacy staff adequate knowledge on COVID-19 prevention and control as well as the pharmacy environmental control. Guidance on the new workflow and emergency plans in the face of the pandemic should also be included. Additional clinical training shall be provided for pharmacists on the diagnosis and clinical pathway treatment on COVID-19. Pharmacists shall particularly master the content related to admitted patient populations. This includes (1) patient screening and referral criteria, (2) methods for effective self-protection, (3) counseling points of related medications, (4) chronic disease management of the elderly, and (5) adequate personal protective equipment. Training of all pharmacy staff is essential for the successful delivery of pharmacy services and to facilitate a full complement of the required skills needed on each team/shift.

**Avoid switching of staffs from one shift to another**

Even with great planning and foresight, it is inevitable that employees will occasionally have unexpected events. These events might make them unable to work their scheduled shift not to mention that staff schedule swaps and changes have to be one of the most frustrating points for managers. Schedule swaps and shift changes can be confusing for both staff and management and not suitable during this COVID-19 pandemic.

Due to the increased risk of cross infection among patients and health-care providers, unnecessary duty swapping or team member switching shall be avoided during the COVID-19 pandemic. To curb confusion and avoid frustration, we define a clear process on no swapping shift to another and keep lines of communication open for any personal emergency situation. Through this process, it encourages communication between employees and management which not only builds trust and rapport but also helps you better manage schedules so that shift-swapping can be totally minimized.

**Implement an “Air Gap” or delayed shift changeover**

The incoming and outgoing staff are strictly following the in between space or delayed shift changeover. This is very important to accommodate a full cleaning and or disinfection of all shared machines, tools, and pharmaceutical equipment and reduce unnecessary interactions between different shift personnel.

**Minimize the sharing of equipment and/or tools**

As per policy in maintaining the sterility of pharmacy areas, the succeeding staff strictly adhere to disinfect and or clean the working areas. Initially, before starting any preparation or dispensing of medications, the staff should mandatorily follow all the procedures to restrain from sharing or borrowing any devices from other co-workers to limit the risk of spread the virus.

**Identify and suspend all nonessential operations**

Throughout this pandemic, hospital pharmacists shall actively identify and suspend all nonessential operations which do not directly impact department functionality. For instance, the exchange of emergency crash cart tray procedure within the pharmacy department is discontinued, rather replenishing will take place in the same patient care units by utilizing through phones, mobile applications, and the Internet. This approach will minimize the spread of virus transmission during transportation; it also saves and is safer to both health-care providers including patients compared to traditional exchanging process.

Furthermore, drug dispensing and patient education at the counter to reduce patients’ unnecessary visits to the pharmacy is crucial. This is especially when performing drug dispensing and patient interaction during the COVID-19 pandemic; pharmacists shall pay extra attention to patient’s self-protection and emotional situation. For example, pharmacists can check if the patient is wearing mask or performing respiratory hygiene properly. Pharmacists shall be readily available to provide consultation on proper self-protection skills or psychological support for these identified patients. If the pharmacy is short on a prescription medication, a therapeutic equivalent substitution shall be considered for dispensing under physician agreement to avoid delayed or missed of patient medication. The safety operation process must include a set of strategies, such as environment cleaning and disinfection, patient screening at the gate, limiting patient numbers, and separating patients with safe distance when getting their drugs, to prevent cross infection in the medical institution and during the drug dispensing process.

**Discussion**

Our key finding in this study is that the majority of the PSA staff members were agreed to work for 7 days which exceed the maximum hours per week. Typically, in case of the mass
outbreak like COVID-19 pandemic, exceptional instructions and interventions may be applied in order to keep the continuum of the services with minimal workforces.

Another key finding is the structuring of an interventional guidance that can be shared with other institutions in order to overcome the exceptional outbreak situation.

The limitation of this study is that it is an institutional experience that can be shared but not generalized as a recommendation and guidance on providing pharmaceutical services in case of a pandemic crisis.

**Conclusion**

During the COVID-19 outbreak, the pharmaceutical services provided valuable pharmacy functions and care considering splitting the pharmacy employees into two teams and yet united in one mission and objective. Through these services, pharmacists and pharmacy technicians have presented their professional competence, dedication, and responsibility to patients, other health-care providers, and the society.

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**Conflicts of interest**

There are no conflicts of interest.

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