Virtual Pediatrics Medication Counseling Clinic: A New Initiative Project in Saudi Arabia

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ABSTRACT

Objectives: The virtual pediatric medication counseling clinics were created to align with Saudi Vision2030. This topic aims to declare the virtual pediatric medicine education clinic services as a new initiative in the Kingdom of Saudi Arabia. **Methods:** This new project is driven by local and international virtual pharmaceutical care services. It was formulated from guidelines of pharmacy projects, the international business model, , and management institution guidelines for the new project. Project management professionals draft this initiative, consisting of several stages, from the initial until planning phases, execution, monitoring, and control stages. **Results:** Virtual pediatric medicine counseling clinics consist of medication history reviews, medication reconciliation, patient education, medication safety, research and development, and patient satisfaction. Furthermore, the risk management model description ensures the project's continuation. Besides, the monitoring and control of the services were declared. Finally, the analysis investigates the transition to the operation project through the closing project stage. **Conclusion:** Virtual pediatric medication counseling clinics are a new initiative in the general strategic plan with Saudi Vision 2030. Virtual pediatric medicine education clinic requires a clear vision, policy and procedures, and long-term patient service satisfaction. Virtual pediatric medication counseling clinics may be essential in developing an appropriate pharmacy professional plan focusing on patient care to achieve targeted therapeutic management, prevent drug-related problems, and avoid unnecessary costs.
Keywords: Virtual Pediatric, Medication, Education, Counseling, Saudi Arabia.

INTRODUCTION

Based on improving the quality of life, the requirements of the individual and society have become more extensive to include all aspects of daily life, such as the quality of health care. Therefore, healthcare services continuously develop in order to meet these growing needs.[1] Moreover, we must be proactive and think outside the box before a crisis occurs to avoid making mistakes, such as when the COVID-19 virus swept the world and caused so many losses that we still suffer from its effects.

Virtual clinics are one of the health innovations recently highlighted after the coronavirus pandemic diffusion. Although it is not considered an innovation, it has become a must-have innovation in order to maintain the safety of patients and health practitioners. Nevertheless, after the world health crisis, this innovation became one of the appropriate solutions compatible with our needs to manage the situation.[1] Various studies were conducted with virtual services, including clinics. They found more satisfaction with patients and less economic burden on the healthcare system. Therefore, adding value to the customer is one of the primary triggers of adopting innovative services in the health sector.[2-5]

Accordingly, the top leaders of our hospital decided to adopt the virtual clinics project to implement the precautionary policies besides maintaining the quality and patient safety standards approved by the relevant organizations.[2] The services have improved health system performance: Better Care, Healthy People, and Affordable Care.[6] Hence, this service will enable us to improve our outcomes and achieve patient satisfaction, which is the primary goal of any innovation in healthcare technology. Various studies discussed virtual pediatric medication counseling services. However, the authors are unfamiliar with any local or gulf countries publication about virtual pediatrics medicine education clinics operated by pharmacists. The current topic to declare the virtual pediatrics medication-counseling clinic in Saudi Arabia.

MATERIALS AND METHODS

It is a new initiative project derived from international and national Virtual Pediatrics Medication Counselling Clinic guidelines and regulations[3,4,7-12] The task force team of virtual clinical pharmacy services formulated consisted of the author's expertise in pharmacy administration, distributive pharmacists, and clinical pharmacy practitioners. The committee unitized and drove the international and local literature from the Virtual Pediatrics Medication Counselling Clinic services guidelines and experiences. It was written utilizing a new project's global business model, pharmacy project guidelines, and project management institution guidelines.[13-16] Various project management professionals' tools to conduct the project. The project included multiple sections, such as the initial phase, the planning phase, the execution phase, and the monitoring and controlling phase.

Initiative phase

Assessment needs

On the positive side, this service has enabled us as a healthcare institution to maintain the continuity and sustainability of healthcare provided to our patients in the presence of geographical barriers, complete health closure based on safety precautions, and meet total quality standards.[17] Undoubtedly, as a government hospital, these new innovative health services have provided accessible care without any cost and equitably for all of our chronic disease patients at any time from anywhere with fewer interruptions to their working day.[2-5]

The pharmaceutical care services were expanded from one year to another.[18-22] That included ambulatory care services acute and critical care inpatient pharmacies. Patient counseling has been a well-known service over the past years for adults and pediatrics.[23,24] Various local studies have implicated pediatric medicine errors and need more attention for patient education.[25-29] Furthermore, the coronavirus period pushes all pharmacy leaders to establish a suitable remote area without close contact with patients, like virtually, to educate pediatrics and prevent drug-related problems.[30,31] Therefore, establishing a virtual pediatric counseling clinic was required.

SWOT analysis

SWOT analysis is a standard tool for any new project analysis. The acronym SWOT stands for strengths, weaknesses, opportunities, and threats. The project's strengths include establishing a previously started during epidemic situations, establishing patient counseling programs, medication safety and the prevention of errors, supporting many pharmacy activities, and using electronic devices. In contrast, the weak points required key performance indicators for follow-up, new experiences, and unavailability of regulations. The opportunities align with Saudi Vision 2030 and using electronic governance and healthcare organizations' patient safety programs.[32,33] The threat points are the nonexistence of virtual pediatric medicine counseling clinics and the unavailability of administration planners.

Market Analysis

Most hospitals had patient education programs for inpatients or during discharge and outpatient pharmacies.[23] Several hospitals started patient counseling through a hybrid system.[34] Most hospitals are concerned about adults, and few healthcare facilities focus on pediatric care, including virtual pediatric coupling clinics. Tele-pharmacy technology is one of the future visions of electronic government and was part of Saudi Vision 2030.[32,33]

Planning phase

Scope of the project

The project focuses on virtual pediatric medicine counseling clinics. That includes a variety of program facets such as patient education, medication safety, research and development, patient satisfaction, information technology, and performance applications in virtual pharmacy practice.

Vision, Missions, Goals

The project's vision is the best Integration of innovative virtual clinic services into our hospital healthcare delivery system for high-value, patient-centered care, while the message is Adapting modern technologies to ensure the continuity of providing health services with efficiency and high quality for our patients by leveraging technology to facilitate the communication between the clinicians and their chronic disease patients. The project aims to allow our patients to contact their treating physicians during the pandemic closure. Providing virtual health consultations will improve patient experience and satisfaction by facilitating the application of safety precautions and maintaining the confidentiality of patient information through using a system supported by privacy and security programs, Minimizing the cost of healthcare by reducing the levels of complication and readmission, and Enhancing the level of patient self-care and health awareness.

Project description

The following policies were implemented for all pharmacy staff and other healthcare personnel:

- Virtual Pediatrics Medication Counseling Clinic (VPMCC) committee should be established.
- The VPMCC) committee should be composed of representatives from healthcare administration, pharmacy administration, Pediatric clinical pharmacist, pediatrics pharmacist, pharmacy informatics, information technology specialist, nurse, physician, medication safety officer, and pharmacy quality management
- The committee revises the Virtual Pediatrics Medication Counseling Clinic, the local and international hospital, and community standards and regulations.
- The proposed Virtual Pediatrics Medication Counseling Clinic plan included telemedicine and telehealth policies and procedures (Figure 1).
- The Ministry of Health has launched the "remote clinics" service, which gives the patient the option to attend medical appointments "remotely" through the (Anat) and (Sehhaty) platforms.
- The Ministry of Health stated that the "remote clinics" service connects the patient to the doctor. That facilitates access to health services and enables the beneficiary to obtain an integrated remote service. It will reduce the rate of patients' visits to hospitals for non-emergency cases, limiting the spread of infection and increasing the patient's satisfaction rate by reducing the effort and time required to obtain medical advice.
- A pharmacist must develop, implement, and fulfill plans to monitor the patient's progress toward desired therapeutic outcomes.
- Identify the amount and type of education desired/required to patients.
- Routinely and accurately identify the degree of monitoring a patient requires according to the health risks posed by the patient's medication, drug-related problems, or disease.
- Appropriately educate patients on the following when dispensing prescription and non-prescription drugs, when patient counseling on discharge medications, or when providing recommendations about the management of specific drug-related problems.
- The pharmacist counsel the patient about (drug name and indication (e.g., antibiotic, pain reliever), directions for use, including education about drug devices, storage requirements, important drug-drug or drug-food interactions, the intended therapeutic response, and associated time frames. Beside, common or important side effects and associated time frames, monitoring of his/her therapeutic response or development of side effects, actions the patient should take if the intended therapeutic response is not obtained or side effects develop. When appropriate, the actions the pharmacist will undertake to monitor the patient's progress.

Patients should be counseled

The amount and type of information provided to the patient will vary based on the patient's needs and may include

- Patients receiving more than a certain number of medications (four or more prescribed medications).
- Patients are known to have visual, hearing, or literacy problems.
- Pediatric patients.
- Patients on anticoagulants.
- Medication with a narrow safety profile.

Outpatient Pharmacy

- The pharmacist in the outpatient clinics records the data of the patient who meets the criteria in the list of patients with whom a virtual appointment will be scheduled for medication consultations.

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Virtual Clinic Coordination Office

- Based on the list, the authorized person will book virtual clinic appointments for patients on the (Anat) platform.

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Patient at Home

- The patient will receive a notification from the (Sehhaty) platform about the existence of a scheduled appointment for him with the medication counseling clinic.

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Virtual Medication Counseling Clinic

- During working hours of the clinic, the pharmacist on duty in the medication counsling clinic reviews the list of patients scheduled under his/her name in that day in the (Anat) platform and reviews the history of each patient in the electronic system of the hospital (Oasis).
- Based on the appointment schedule, the pharmacist will open connect with each patient through the (Anat) platform to provide medication advice and respond to the patient's inquiries then fill the Medication Counseling Form.
- At the end of the virtual clinic shift, the pharmacist collect the patients' data and the information that was provided to them in Excel, in addition to fill the data in a link that is sent directly to the Ministry of Health.

Note

Sehhaty platform:

It is the unified platform of the Ministry of Health, which provides many health services to individuals by reviewing their health information and achieving an integrated health strategy to reach a vibrant and healthy society.

What does (Sehhaty) platform offer?

The platform provides users in the Kingdom with a wide range of health services.; To facilitate the provision of integrated health care to individuals, one of these services includes booking and viewing the schedule of virtual clinic appointments.

Figure 1: Processes of Virtual Pediatrics Medication Counselling Clinic.

- Confused patients and their caregivers.
- Patients whose profile shows a change in medications or dosing.
- New patients or those receiving medication for the first time (transfer prescription).
- Patients receiving medication with special storage requirements, complicated directions, significant side effects.

Patients who should be counseled at specific intervals

- Asthmatic patients,
- Diabetic patients,
- Patients who have a mental illness,
- Patients using appliances,
- Epileptic patients,
- Patients with skin complaints,
- Patients misusing drugs,
- Patients who are terminally ill.

The format of counseling provided

Written material helps the patient, and if the patient has forgotten or is unsure of what the pharmacist said, the written material may provide the answer or stimulate the patient to call the pharmacist. The written material may provide basic information only or be quite detailed. Pictograms, needed to illustrate how to administer eye drops, are much easier to understand and should supplement a detailed verbal description.

Type of Counseling area

The patient should be counseled in a semi-private or private area away from other people and distractions, depending on the medication(s) (Figures 2-4).

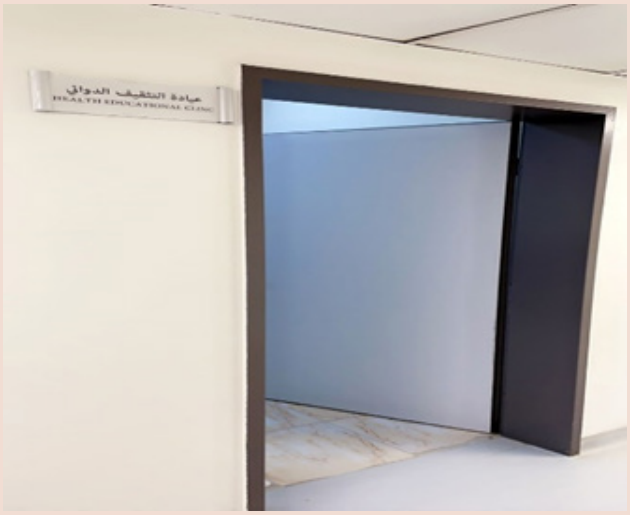

Figure 2: Private room of virtual Pediatrics medication counseling clinic.

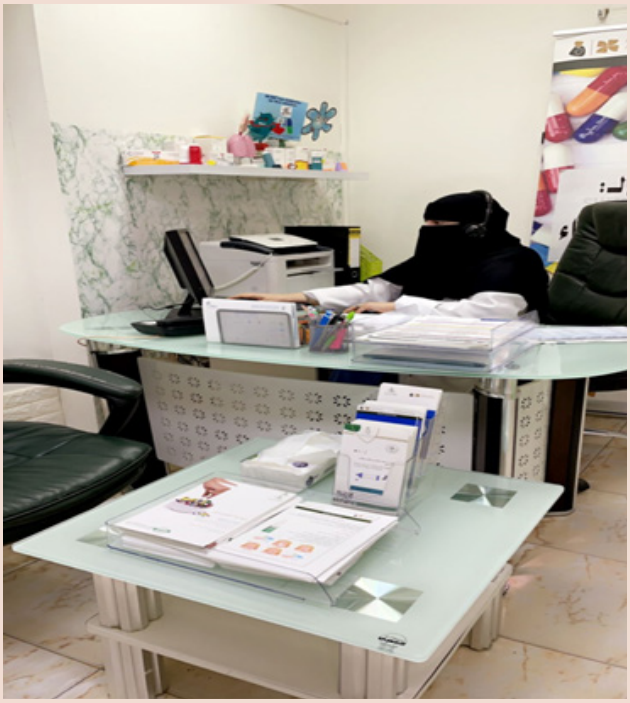

Figure 3: The pharmacist connected with the application medication counseling clinic.

Figure 4: The pharmacist is counseling patients about medications in the clinic.

The patient should perceive the counseling area as confidential, secure, and conducive to learning.

That helps ensure both parties are focused on the discussion and minimizes interruptions and distractions. It allows patients to ask questions they may be hesitant to ask in public.

Documentation

The counseling session should be documented. That may be as simple as a checklist or as detailed as recorded notes in the patient's medication profile. Any follow-up required should be noted. It should also be recorded if the patient does not wish to be counseled.

- The committee educates Virtual Pediatrics Medication Counselling Clinic representatives on plan policy and procedures.
- The committee established key performance indicators to monitor Virtual Pediatrics Medication Counselling Clinic services.
- All Pediatrics Medication Counselling Clinic services publish quarterly KPIs and percentages of implementation, as well as an annual final report.
- The Pediatrics Medication Counselling Clinic services committee should evaluate the patient's clinical outcome.
- The committee should determine the Pediatrics Medication Counselling Clinic service's economic impact.
- The committee should keep track of any.

Pediatrics Medication Counselling Clinic services Plan and services and develop new virtual clinical pharmacy services.

Plan cost management

For each new project, such as a pediatric medicine counseling clinic, the administration team should establish an economic budget, which should include the cost of pediatric medicine counseling clinic education and instructional guides for patients, pharmacy staff, and healthcare providers, the prices of administration team meetings, workload and the updated resources. The budget should be monitored until the project is completed and operated.

Executing phase

Management team

Professionals in project management took various steps. The executing phase was one of the foundation's steps. It had a team that led the project from the start until the operating systems were switched at the healthcare organization. The team comprised several individuals, including pharmacy staff representatives, hospital pharmacies, pediatric physicians, pediatrics nurses, total quantity management pharmacists, medication safety officers, clinical pharmacy information technology, and patient representatives. The team is responsible for implementing and monitoring the new services and regularly updating key performance indicators. Additionally, the team should educate and train participants, pharmacy professionals, healthcare providers, and employees about the new services and track the project's clinical and economic outcomes.

Education and training

Each new challenge necessitates unique training and coaching for concerned individuals. This endeavor seeks to educate and train pharmacy staff healthcare professionals. Additionally, the patient and team administration hopes to provide orientation training for all pharmacists and healthcare professionals regarding the endeavor. The orientation emphasis for all new workforce pharmacists and healthcare providers had been joining virtual medication counseling clinics and healthcare institutions.

Monitoring and controlling phase

Project total quality management

Numerous tools are used to manage the total quantity of a new virtual pediatric medication counseling clinic project during the implementation phase and to reflect the impact. Among them were the balance-scored cards.[35-37] The monitoring tools were divided into four sections: customer satisfaction, finance, internal processes, education, and innovation. The assessment of healthcare services in a virtual pediatric medication counseling clinic was an example of an internal process. The clinical outcome of a virtual pediatric medication counseling clinic may reflect the education and competency of pharmacists employed by the healthcare services. The financial had another way of calculating the cost avoidance of virtual pediatric medication counseling clinics in the healthcare system. The fourth type was the customer type, which assessed patient satisfaction in virtual pediatric medication counseling clinics and with pharmacists and healthcare providers in Saudi Arabia, including pharmacists and pharmacy technicians employed by healthcare facilities.

Risk Management

Numerous risks are considered, including those related to the schedule, scope, budget, personnel, technical, and quality risks. The project is primarily exposed to personnel, budget, technical, and quality risks.[38,39] Personal threats adequately threatened the project due to a lack of trained healthcare professionals, pharmacists, and pharmacy technicians. The budget risk does not cover all pharmacy staff and healthcare professionals' education and training. Additionally, there is a technical risk that may be exposed. The technical aspect is limited to electronic resources or a computer system that is not user-friendly in pharmacy practice. Finally, due to the absence of pediatric and neonatal medication safety tools, the project may face quality risks or inexperienced personnel.

Closing of the project

virtual pediatric medication counseling clinics must have a strategic plan for all public and private healthcare organizations. This ensures high-quality services from healthcare services, prevents drug-related errors that result in morbidity and mortality, and alleviates economic strain on

the pharmacy and healthcare systems in Saudi Arabia, including hospitals and primary healthcare centers. The project should be continued at healthcare facilities, with oversight provided by relevant committees. The virtual pediatric medication counseling clinic services should be carried out appropriately. Virtual pediatric medication counseling clinics should be updated regularly, and the companies' services and activities should be expanded in the future. In Saudi Arabia, the annual meeting of virtual pediatric medication counseling Clinics and pharmacy personnel, including pharmacists and pharmacy technicians, is highly recommended.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

CONSENT FOR PUBLICATIONS

Informed consent was obtained from all the participants.

ETHICAL APPROVAL

This research was exempted from research and ethical committee or an institutional review board (IRB) approval.
https://www.hhs.gov/ohrp/regulations-and-policy/decision-charts-2018/index.html

ABBREVIATIONS

MOH: Ministry of Health; **KSA:** Kingdom of Saudi Arabia; **VPMCC:** Virtual Pediatrics Medication Counseling Clinic; **SWOT:** Strengths, Weaknesses, Opportunities, and Threats; **KPI:** Key Performance Indicator.

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