Safety and Occupational Health in Pharmacy Practice: A New Initiative Project in Saudi Arabia

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ABSTRACT

Objectives: The Pharmacy Safety and Occupational Health services were created to align with pharmacy strategies in the future. The topic aims to declare Pharmacy Safety and Occupational Health services as a new initiative in Saudi Arabia. **Methods:** This new project is driven by local and international Safety and Occupational Health regulations and standards of care. 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 in various stages, from initial planning to execution, monitoring, and control. **Results:** Pharmacy Safety and Occupational Health services include fundamental elements such as a defined vision, mission, and goals, besides the pharmacy security, pharmacy fire safety, medication safety datasheet, hazard materials, pharmacy disaster, and safety equipment maintenance. 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 until the project is in the closed stage. **Conclusion:** Pharmacy Safety and Occupational Health services are a new initiative in the pharmacy strategic plan with Saudi Vision 2030. Pharmaceutical firms require a clear vision, policy, and long-term partnership. Pharmaceutical care and manufacturer gatherings may be essential in developing appropriate pharmacy professional services zooming on patient care to reach optimal drug therapy management, prevent drug-related misadventures, and avoid unnecessary costs.
Keywords: Occupational Safety, Health, Pharmacy, Services, Initiative, Saudi Arabia.

INTRODUCTION

Over the past years, there have been mass incremental numbers of hospitals and related facilities, including pharmacy services.[1] There are wide expanding in the pharmacy practice program, such as total parenteral nutrition and outsourcing resources,[2] medication safety,[3] pharmacy practice residency,[4] anticoagulant therapy program,[5] and many pharmacy practice programs suggested as initiatives for new local projects.[6,7] All those pharmacy facilities need various support, such as security and fire safety, which was part of the Saudi Central Board for Accreditation of Healthcare Institutions (CBAHI) standards such as Facility Management and Safety (FMS),[8,9] and other international occupational safety regulations.[10-12] The FMS standard and related issues were implemented in healthcare facilities. The application of FMS standards was minimal in the pharmacy services except for fire safety law.[13] Safety and Occupational Health are required with depth and detail to prevent Safety and Occupational Health concerns and errors. Limited studies or reports discussed pharmacy Safety and Occupational Health.[14-18] Based on their knowledge, the authors are unaware of any strategic plan for pharmacy Safety and Occupational Health in Saudi Arabia or other Gulf and Middle Eastern countries. The current review seeks to designate the pharmacy Safety and Occupational Health project as a new initiative in Saudi Arabia.

METHODS

It is a new initiative project for pharmacy Safety and Occupational Health services derived from international and national guidelines and previous literature.[8-20] The task force team of pharmacy Safety and Occupational Health services formulated consisted of the author's expertise in pharmacy administration, clinical pharmacy practitioner, and various occupational safety and risk management specialties experts. The committee united and drove the international and local literature from the pharmacy Safety and Occupational Health services guidelines and experiences. It was written utilizing a new project's global business model, pharmacy project guidelines, and project management institution guidelines.[21-24] The pharmacy Safety and Occupational Health compulsion from FMS standards. 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

Various local and international studies have discussed the pharmaceutical care services survey in past years. They discussed ambulatory care pharmacy services, acute care, drug monitoring,[25-27] inventory management, and education and training.[25,26] There is no discussion of pharmacy security and fire safety. Pharmacy Safety and Occupational Health were omitted after the updated undergraduate curriculum or postgraduate studies residency program was revised.[4,27] Furthermore, the pharmacy strategy plan did not contain the pharmacy security and fire safety.[7] Literature rarely or very old discusses pharmacy Safety and Occupational Health or has a limited view of pharmacy practice.[14,17] Despite the critical importance of the pharmacy practice, it is part of local law and regulation for a new community pharmacy establishment.[13] However, most pharmacy security only discussed the security of narcotics and controlled substances.

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 pharmacy Safety and Occupational Health clinical pharmacy, preventing hospital or community pharmacies from Safety and Occupational Health errors, supporting many pharmacy activities, and providing some pharmacy Safety and Occupational Health services Resources. The weak points require that the computer technology of pharmacy Safety and Occupational Health services is absent for most predominantly healthcare facilities. The opportunities align with Saudi Vision 2030,[28,29] the healthcare organization's Safety and Occupational Health program. The threat point is the nonexistence of pharmacy Safety and Occupational Health services and the unavailability of an administration planner.

Market Analysis

FMS's local and international quality standards include general Safety and Occupational Health for healthcare facilities.[9] That included four standards to get the accreditation from local agency CIBAHI. The Safety and Occupational Health covered all healthcare departments, including the pharmacy services. Besides, civil defense regulations of fire safety established the pharmacy and related medication stores or national planning of crises disaster management.[13-30] However, there is limited information about Safety and Occupational Health pharmaceutical care services.[14-17] Thus, the current topic is to zoom into more detail about safety and occupational health in pharmacy practice.

PLANNING PHASE

Scope of the project

The project focuses on pharmacy Safety and Occupational Health services. That includes a variety of program facets such as pharmacy fire safety, material safety data sheet, hazard materials, pharmacy infection control, pharmacy crises and disaster management, total quality management of pharmacy occupational safety, competency pharmacy occupational safety, and education and training for pharmacy staff and health care in occupational safety practice.

Vision, Missions, Goals

The project's vision is to investigate the best and highest-quality preventive, suppression, and evacuation competencies during pharmaceutical care organizations' occupational health and disaster. The message is to prevent, suppress, and evacuate during security, fire, and disaster accidents at pharmacy practice organizations. The project aims to prevent fire and disaster at pharmacy institutions, suppress security, examine occupational health incidents and disasters at pharmacy institutions, and assess the occupational safety system and disasters at pharmacy organizations. To educate and train healthcare professionals about occupational safety and health, maintain pharmacy occupational safety at healthcare institutions, and follow up the implementation of fire and disaster preventive measures at pharmacy organizations. In addition, implementing the Saudi Vision 2030 in pharmacy occupational safety governance, improving patient quality of life through activating monitoring healthcare staff and patient's safety, and making accessible communication with Safety and Occupational Health while avoiding unnecessary and additional costs on pharmacy and healthcare organizations are priorities.

Project description

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

- A Pharmacy Safety and Occupational Health committee should be established.
- The Pharmacy Safety and Occupational Health committee should comprise representatives from healthcare administration, pharmacy administration, clinical pharmacist, distributive pharmacist, pharmacy informatics, pharmacy technician, medication safety officer, pharmacy risk management, pharmacy security, safety engineering, and pharmacy quality management
- The committee revises the Pharmacy Safety and Occupational Health of local and international hospitals and community standards and regulations.
- Define pharmacy Safety and Occupational Health services that include pharmacy fire safety, material safety data sheet, pharmacy crises, and disaster management, total quality management of pharmacy occupational safety, competency pharmacy occupational safety, and education and training for pharmacy staff and health care in occupational safety
- The proposed Pharmacy Safety and Occupational Health plan and policy and procedures.
- The committee educates Pharmacy Safety and Occupational Health plan representatives on policy and procedures.
- The committee established key performance indicators to monitor Pharmacy Safety and Occupational Health services
- All Pharmacy Safety and Occupational Health services publish quarterly KPIs and percentages of implementation, as well as an annual final report.
- The Pharmacy Safety and Occupational Health Services Committee should evaluate occupational safety and health outcomes in pharmacy practice.
- The committee should determine the economic impact of the Pharmacy Safety and Occupational Health service.
- The committee should track and document any Pharmacy Safety and Occupational Health incidents and correct the pharmacy situation accordingly.

Plan cost management

The administration team should establish an economical budget for each new project, including the cost of pharmacy Safety and Occupational Health services education and instructional guides for pharmacists and support personnel, administration team meetings, and updated resources. The budget should be monitored until the project is completed and run.

EXECUTING PHASE

Management team

Professionals in project management took several 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 representatives from healthcare administration, occupational safety and health, pharmacy administration, clinical pharmacist, distributive pharmacist, pharmacy informatics, pharmacy technician, medication safety officer, pharmacy risk management, pharmacy security, safety engineering, and pharmacy quality management. The team is responsible for implementing and monitoring the new services and regularly updating key performance indicators. Additionally, the team should educate and train pharmacy staff and health care about the new pharmacy Safety and Occupational Health 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 pharmacists, pharmacy technicians, healthcare providers, healthcare facility administrators, and all pharmacy staff. Additionally, the team administration hopes to provide orientation training for all pharmacy staff and healthcare professionals regarding the endeavor. The orientation emphasis for all new workforce pharmacists and healthcare providers had been joining pharmacy Safety and Occupational Health services

MONITORING AND CONTROLLING PHASE

Project total quality management

Numerous tools are used to manage the total quantity of a new pharmacy Safety and Occupational Health service project during the implementation phase and to reflect the impact. Among them were the balance-scored cards.[31-33] The monitoring tools were divided into four sections: customer satisfaction, finance, internal processes, education, and innovation. The assessment of healthcare services in pharmacy Safety and Occupational Health services was an example of an internal process. The clinical outcome of pharmacy Safety and Occupational Health services may reflect the education and competency of clinical pharmacists, distributive pharmacists, and pharmacy technicians employed by the company as one of the education types. The financial had another way of calculating the cost avoidance of pharmacy Safety and Occupational Health services in the healthcare system. The fourth type was the customer type, which assessed staff satisfaction of pharmacists and pharmacy technicians in the pharmacy Safety and Occupational Health services.

Risk Management

Numerous risks are considered, including those related to the schedule, scope, budget, personnel, technical, and quality risks. The project was primarily exposed to personnel, budget, technical, and quality risks.[34,35] Personal threats adequately threatened the project due to a lack of trained pharmacy occupational safety personnel. The budget risk does not cover all pharmacy staff education and training. Additionally, there is a technical risk that may be exposed. The technical aspect is limited to resources, reading material on occupational safety, and a computer system that is not user-friendly in pharmacy occupational safety practice. Finally, the project may face quality risks due to inexperienced personnel or a lack of pharmacy Safety and Occupational Health services tools.

Closing of the project

All hospitals and community pharmacies should have pharmacy safety and occupational health services for all public and private healthcare organizations. That ensures high-quality services from pharmacy Safety and Occupational Health services, prevents Safety and Occupational Health errors that result in morbidity and mortality incidents, 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 pharmacy Safety and Occupational Health services on a pharmacy-by-pharmacy basis, with oversight provided by relevant committees. Pharmacy Safety and Occupational Health services should be updated regularly, and activities should be expanded in the future. In Saudi Arabia, the annual meeting of pharmacy Safety and Occupational Health services and pharmacy personnel, including clinical pharmacists, distributor pharmacists, and pharmacy technicians, is highly recommended.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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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; **SWOT:** Strengths, Weaknesses, Opportunities, and Threats; **CBAHI:** Saudi Central Board for Accreditation of Healthcare Institutions; **FMS:** Facilities and Management Safety.

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REFERENCES

1. Saudi Ministry of Health. MOH Annual Report. Ministry of Health, 2020.
2. Alomi YA, Aldakheel SI. Outsourcing of Pharmaceutical Care Services: A New Initiative Project in the Kingdom of Saudi Arabia Abstract. Pharmacology, Toxicology and Biomedical Reports. 2021;7(1):1-4. doi: 10.5530/ptb.2021.7.1.
3. Alomi YA. National Medication Safety Program at Ministry of Health in Saudi Arabia. Journal of Pharmacovigilance. 2015;3(5). doi: 10.4172/2329-6887.1000e145.
4. Al-Haidari KM, Al-Jazairi AS. Establishment of a national pharmacy practice residency program in Saudi Arabia. American Journal of health-system Pharmacy. 2010;67(17):1467-70. doi: 10.2146/ajhp090536. PubMed PMID: 20720247.
5. Alomi YA. National pharmacy anticoagulation program at Ministry of Health in Saudi Arabia. BAOJ Pharm Sci. 2017;3(3):1-7.
6. Alomi YA. National Pharmacy Practice Programs at Ministry of Health in Saudi Arabia. Journal of Pharma & Pharmaceutical Sciences. 2015;1(2):17-8. doi: 10.24218/vjpps.2015.10.
7. Alomi YA, Algahmadi SJ, Alattyh RA. Strategic Plan of General Administration of Pharmaceutical Care at Ministry of Health in Saudi Arabia 2012 – 2022. JPharm Pharm Scien. 2015;1(3):1-8.
8. Alsakkak MA, Alwahabi SA, Alsalhi HM, Shugdar MA. Outcome of the first Saudi Central Board for Accreditation of Healthcare Institutions (CBAHI) primary healthcare accreditation cycle in Saudi Arabia. Saudi Medical Journal. 2017;38(11):1132-6. Epub 2017/11/09. doi: 10.15537/smj.2017.11.20760. PubMed PMID: 29114702; PubMed Central PMCID: PMCPMC5767617.
9. National Hospital Standards. Third Edition ed: Saudi Central Board for Accreditation of Healthcare Institutions.; 2015.
10. ISO. Occupational health and safety management systems – Requirements with guidance for use. 2018.
11. Rooij PV. Occupational Safety and Health Management System. International Labour Organization, 2016.

12. Recommended Practices for Safety and Health Programs. Occupational Safety and Health Administration, 2016.
13. The fire safety and protection regulations in pharmacy and drug stores. The Civil Defense, Ministry of Interior.
14. Yodaiken RE, Bennett D. OSHA work-practice guidelines for personnel dealing with cytotoxic (antineoplastic) drugs. Occupational Safety and Health Administration. American journal of hospital pharmacy. 1986;43(5):1193-204. Epub 1986/05/01. PubMed PMID: 3717176.
15. Mixon B, Nain J. Complying with Occupational Safety and Health Administration regulations: a guide for compounding pharmacists. Int J Pharm Compd. 2013;17(3):182-90. Epub 2013/09/21. PubMed PMID: 24046933.
16. Le LMM, Reitter D, He S, Bonle FT, Launois A, Martinez D, et al. Safety analysis of occupational exposure of healthcare workers to residual contaminations of cytotoxic drugs using FMECA security approach. Sci Total Environ. 2017;599-600:1939-44. Epub 2017/05/28. doi: 10.1016/j.scitotenv.2017.05.066. PubMed PMID: 28549369.
17. Greeson NMH, Mixon W, Allan WC. Safety Standards in Pharmaceutical Compounding, Part 1: The Occupational Safety and Health Administration. Int J Pharm Compd. 2020;24(4):270-6. Epub 2020/07/11. PubMed PMID: 32649298.
18. Kusumaningtyas NIF, Satrio T. Evaluation of the Occupational Health and Safety Implementation in the Pharmacy Laboratory of University X Surabaya. The Indonesian Journal of Occupational Safety and Health. 2022;11(1):43-53. doi: 10.20473/ijosh.v11i1.2022.43-53.
19. Graham JC, Hillegass J, Schulze G. Considerations for setting occupational exposure limits for novel pharmaceutical modalities. Regul Toxicol Pharmacol. 2020;118:104813. Epub 2020/11/05. doi: 10.1016/j.yrtph.2020.104813. PubMed PMID: 33144077; PubMed Central PMCID: PMCPMC7605856.
20. Recommended Practices for Safety & Health Programs in Construction. Occupational Safety and Health Administration, 2016.
21. R M. is writing a business plan for a new pharmacy service. 2010.
22. American College of Clinical P, Harris IM, Baker E, Berry TM, Halloran MA, Lindauer K, et al. Developing a business-practice model for pharmacy services in ambulatory settings. Pharmacotherapy. 2008;28(2):285. Epub 2008/01/30. Doi: 10.1592/phco.28.2.285. PubMed PMID: 18225974.
23. Sachdev G. Sustainable business models: a systematic approach toward successful ambulatory care pharmacy practice. American Journal of health-system Pharmacy. 2014;71(16):1366-74. Epub 2014/07/31. doi: 10.2146/ajhp140078. PubMed PMID: 25074956.
24. Guide P. A Guide to the Project Management Body of Knowledge. Sixth Edit ed: Project Management Institute, Inc; 2017.
25. Alomi YA, Alghamdi SJ, Alattyh RA. National Survey of Pharmacy Practice at MOH Hospitals in Saudi Arabia 2016-2017: Pharmacy Inventory Control and Stock Management. Journal of Pharmacy Practice and Community Medicine. 2018;4(1s):s28-s33. doi: 10.5530/jppcm.2018.1s.16.
26. Alomi YA, Alghamdi SJ, Alattyh RA. National Survey of Pharmacy Practice at MOH Hospitals in Saudi Arabia 2016: Pharmacy Education and Training. Journal of Pharmacy Practice and Community Medicine. 2018;4(1s):s23-s7. doi: 10.5530/jppcm.2018.1s.15.
27. Asiri YA. Emerging frontiers of pharmacy education in Saudi Arabia: The metamorphosis in the last fifty years. Saudi Pharmaceutical Journal. 2011;19(1):1-8. Epub 2011/01/01. doi: 10.1016/j.jsps.2010.10.006. PubMed PMID: 23960737; PubMed Central PMCID: PMCPMC3744965.
28. Chowdhury S, Mok D, Leenen L. Transformation of health care and the new model of care in Saudi Arabia: Kingdom's Vision 2030. J Med Life. 2021;14(3):347-54. Epub 2021/08/12. doi: 10.25122/jml-2021-0070. PubMed PMID: 34377200; PubMed Central PMCID: PMCPMC8321618.
29. Alasiri AA, Mohammed V. Healthcare Transformation in Saudi Arabia: An Overview Since the Launch of Vision 2030. Health Serv Insights. 2022;15:11786329221121214. Epub 2022/09/10. Doi: 10.1177/11786329221121214. PubMed PMID: 36081830; PubMed Central PMCID: PMCPMC9445529.
30. National Planning of Natural Crises and Disaster. Civil Defense Council. Ministry of Inferior. Saudi Arabia 2006.
31. Chung H-T, Park H-G. Studying a Balance Scored Card-driven System Dynamics Model for Enhancing Hospital Key Performances. The Journal of Information Systems. 2011;20(3):25-40.
32. Mwakithi J. Application Of Balance Scorecard In Strategy Implementation At Kenya Bureau Of Standards: University of Nairobi; 2017.
33. Wu M. Verifying the influences of leadership styles upon organizational performances: Balance-scored card implementation as a moderator. Journal of International Management Studies. 2014;9(1):25-37.
34. Schwartz B. The Risk Management Process in Project Management.2021. ProjectManager.com [cited 2022 Mar 15]. Available from: https://www.projectmanager.com/blog/riskmanagement-process-steps.
35. Kaplan RS MA. Managing Risks: A New Framework Harvard Business Review. 2012 [cited 2020 Mar 15]. Available from: https://hbr.org/2012/06/managing-risks-a-new-framework.