Review of Contemporary Philosophy
ISSN: 1841-5261, e-ISSN: 2471-089X
Vol 22 (1), 2023
Pp 5865 - 5873

Vaccination Uptake and Mitigating Vaccine Hesitancy: The Crucial Role of Pharmacists in Engaging Vulnerable Populations and Addressing Health Disparities

[1]-Afnan Ibrahm Essa Ghobri,[2]-Mohammed Ali Ahmed Nasseri,[3]- Thamer Bandar Alfaqir,[4]- Meshal Fahad Znufr Almutair Khafji,[5]-Khalid Fahd Ali Alrushaidan,[6]-Khaled Saleem Alazmi,[7]-Marieh Mohammed Al Radhwan,[8]- Abdu Mohammed Omar Hamdi,[9]-Naif Muneer Alharbi,[10]-Hanan Muntaha Hassan Al-Moashi,[11]-Mai Abdullah M Alqunfdi,[12]- Randa Abdel Qader Ahmed Al-Maghribi,[13]-Musaad Alhumaidi Alanazi,[14]- Khalaf Hamoud Farraj Alshammri

1. KSA, Ministry Of Health, Jazan General Hospital
2. Ksa, Ministry Of Health, Riyadh First Health Cluster , KING SAUD MEDICAL CITY
3. KSA, Ministry Of Health, King Fahad Specialist Hospital
4. KSA, Ministry Of Health
5. KSA, Ministry Of Health, STOCK CONTROL MANAGMENT- HAIL HEALTH CLUSTER
6. KSA, Ministry Of Health, Health Affairs -Medina
7. KSA, Ministry Of Health, Riyadh Long Term Care Hospital
8. KSA, Ministry Of Health, El-Hadror Primary Health Care Center
9. KSA, Ministry Of Health, Medical Supply Madinah Cluster
10. KSA, Ministry Of Health, Bahar Health Center
11. KSA, Ministry Of Health, Directorate Of Health Affairs - Jeddah
12. KSA, Ministry Of Health, Jeddah Health Affairs Directorate
13. KSA, Ministry Of Health, Children's Maternity Hospital
14. KSA, Ministry Of Health, Stock Control Management

Abstract

Background: The COVID-19 pandemic has underscored significant disparities in vaccination rates across various populations, exacerbating health inequalities. Vulnerable groups, including those from low-income households and marginalized communities, often experience lower vaccination rates, contributing to preventable diseases and higher mortality rates.

Methods: This study conducts a comprehensive scoping review of existing literature on the role of pharmacists in promoting vaccination and reducing vaccine hesitancy. Databases such as PubMed, Scopus, and Web of Science were searched for relevant studies published between 2015 and 2023, focusing on pharmacist-led vaccination initiatives and their effectiveness in engaging vulnerable populations.

Results: The review identified that community pharmacies serve as critical access points for vaccinations, significantly improving uptake rates. Pharmacists have successfully implemented various strategies to target underserved populations, yet barriers remain. Key challenges include communication gaps, socioeconomic factors, and the stigma associated with certain demographics, such as LGBTQ+ individuals and those experiencing homelessness.

Conclusion: Pharmacists play a vital role in enhancing vaccination uptake and addressing disparities. However, to maximize their impact, it is essential to develop tailored strategies that consider the unique needs of diverse populations. This includes fostering interprofessional collaboration, improving education about vaccine safety, and actively engaging with communities to build trust. Future research should focus on refining these approaches and assessing their long-term effectiveness in improving immunization rates.

Keywords: Vaccination uptake, pharmacists, vaccine hesitancy, vulnerable populations, public health.

Received: 07 october 2023 **Revised:** 22 November 2023 **Accepted:** 06 December 2023

1. Introduction

The COVID-19 pandemic has highlighted the disparities in vaccination rates both within and within nations, despite the availability of technological and financial resources to vaccinate persons globally [1]. It is projected that 234,000 fatalities may have been averted in the US between June 2021 and March 2022 by a main course of vaccines [2]. Suboptimal immunization rates disproportionately impact areas often categorized as "vulnerable." The Centers for Disease Control and Prevention reports that newborns from households with incomes below the poverty threshold are 30% less likely to get the seven recommended immunizations (measles-mumps-rubella, diphtheria-pertussis-tetanus, polio) for children aged 19 to 35 months [3]. Revenue is not the only determinant affecting access to vaccination. Vaccination inadequacy significantly impacts community health, since Black, Indigenous, and Hispanic persons have greater influenza-related hospitalization rates compared to non-Hispanic White adults [4]. Population health is intrinsically connected to the upstream sociocultural frameworks and institutions that influence communities, as well as to the interactions among people and their health-seeking behaviors [5]. Susceptibility to infectious diseases may be linked to personal attributes (e.g., age, pregnancy, health condition, disability), behaviors (e.g., sexual practices, alcohol consumption, illicit drug use, travel), or broader determinants such as socioeconomic status, physical environment, or social support.

Vaccination at community pharmacies has gained traction in recent years and may provide a method to mitigate vaccine inequality [6]. Pharmacists are acknowledged as accessible, convenient, reliable, and economical vaccination suppliers [7-10]. Research from many countries indicates that allowing pharmacists to provide vaccinations enhances uptake [11-14]. Pharmacies have outperformed medical offices in administering flu shots in the United States and Canada [15,16]. Previous evaluations have focused on vaccine acceptability, accessibility, and uptake subsequent to the policy permitting pharmacists to provide vaccinations [10, 17-20]. To our knowledge, no assessment has been performed about how pharmacists engage with eligible groups. Pharmacies are privately held enterprises, and although pharmacists are committed to patient welfare, some commercial practices may not coincide with public health goals aimed at serving those in greatest need. Some pharmacies seem to use proactive strategies to engage disadvantaged groups, whilst others may operate on a "first come, first served" approach [21]. Pharmacists, as essential contributors to vaccination, must reassess their implicit and explicit beliefs, as they influence their identification and engagement with vulnerable people via vaccine services [22]. Public health research indicates that "vulnerable populations" are not static identities but rather outcomes of a process that warrants examination concerning the provision of immunization services in community pharmacies.

Data about the demographics of patients immunized in pharmacy settings indicates that pharmacies tend to immunize a more affluent population during influenza vaccination programs. Pharmacies often provide vaccinations to those with more money, elevated educational attainment, and younger demographics. Additional characteristics, including immigrant status, the presence of diabetes or hypertension, and a high prevalence of chronic illnesses, increased the likelihood of persons receiving their immunization in a physician's office [23-26]. Given the varied classifications of vulnerable populations that extend beyond clinical conditions, it is essential to comprehend the qualities that pharmacists identify as susceptible. The impression of vulnerability influences how pharmacists engage with at-risk groups, perhaps aiding in addressing vaccination disparities.

Our purpose is to delineate the definition of vulnerability and the targeting of vulnerable groups in community pharmacy as presented in the current literature.

2. The vaccination of vulnerable groups

This scoping review delineates a diverse array of research focusing on several demographics deemed vulnerable by community pharmacists. The vaccination of vulnerable groups is mostly examined in the

United States, where significant health disparities exist based on race, socioeconomic position, and geographic location. American pharmacists have also benefited from decades of an extended scope of practice, which corresponds with the substantial number of publications published post-2014 (n = 44, 69.8%). We hypothesize that other global locations were underrepresented owing to the linguistic inclusion criteria, since pharmacists mostly engage in pharmaceutical distribution rather than therapeutic activities like immunization.

Vaccination has been a conventional practice within public health, and pharmacists experience pressure to validate their efficacy as immunizers [10]. Our evaluation indicates that almost one-third of the studies assessed the vaccine uptake of pharmacist-led programs (n = 20, 31%). Qualitative and mixed-method research provide a comprehensive insight into the dynamics of immunization within the pharmacy-centric paradigm.

3. The difficulties in delineating vulnerable populations

Pharmacists and their teams focus on at-risk populations in the research featured, primarily using life cycle criteria and clinical considerations. They depend on the accessible information to evaluate eligibility. Age continues to be the most practical criterion for identifying persons, however it may to simplify the reasoning for risk avoidance. Age serves as a reliable statistical predictor for the onset of illnesses such as influenza or pneumonia complications [27,28]. Consequently, it is justifiable to invest more resources to enhance the protection of senior people. Conversely, age may serve as an imperfect predictor, since life expectancy fluctuates based on geographic location or socio-economic factors. The disparity in life expectancy is influenced by wealth, education, and race in the United States. The disparity in life expectancy between rural and urban regions has increased over the last 20 years, mostly due to cardiovascular diseases and drug overdose fatalities [28]. Determining a cut-off for vaccination recommendations is challenging, since the years of life saved significantly differ based on individual conditions. Furthermore, geriatric medicine is shifting towards using frailty scores instead of age to inform treatment choices [29]. Numerous frailty measures provide a more nuanced comprehension of life expectancy or complication risk, although they have not been used in the domain of vaccination [30-33].

Older individuals are also impacted by the phenomena of immunosenescence, characterized by the decline of innate and cellular immunity. The ability to produce immunity is influenced by an individual's clinical profile. Certain chronic disorders, including depression and cardiovascular ailments, as well as situations like starvation, femur fractures, or stress, may diminish our immune response for a certain duration. Administering vaccinations at a younger age or before the onset of stress-inducing situations may be beneficial. Despite the complexity of scientific knowledge about vaccination, the formulation of vaccination recommendations should be straightforward for physicians and easily conveyable to the public.

Acquiring the list of chronic diseases impacting patients in the community context is sometimes challenging, since diagnoses are seldom communicated to the pharmacist. Pharmacists record in the patient's pharmacological profile based on self-reported ailments or inferred from the patient's prescription regimen. This method is flawed. Research used the quantity of drugs as a criterion to identify at-risk individuals [34]. Linking the quantity of medications presents a distorted perspective of vulnerability, as certain conditions, such as diabetes, may necessitate a regimen of four or more oral treatments, whereas various other conditions might be addressed with a single tablet that incorporates multiple pharmacological agents (e.g., antihypertensive and cholesterol-lowering medications). Technological developments and improved diagnostic information exchange among healthcare professionals provide reduced expenditure on patient eligibility assessment, allowing for more investment in vaccine promotion. Examples of ideas include the establishment of a universal immunization registry, the sharing of access to pharmaceutical and medical records, and the simplification of qualifying requirements [35,36].

Other at-risk populations provide distinct targeting difficulties. Given that approximately fifty percent of pregnancies in the US are unplanned, initiatives to guarantee sufficient immunization throughout pregnancy should be broadened to include all women of reproductive age. Prevention is a broad term, and

the scope of at-risk populations expands as we identify other risk factors. Increasingly, asymptomatic persons with risk factors are administered pharmaceutical agents for conditions such as hypertension or dyslipidemia, therefore altering our understanding of health and illness. Vaccines are preventative therapeutics. In some countries, pharmacists are unable to actively engage in the recommended preventive measures during pregnancy, since they lack the authority to prescribe or give vaccinations for pertussis or other conditions included in the standard immunization schedule. Adolescents are often examined in our scoping review, with obstacles stemming from communication barriers and patients' lack of understanding about vaccine requirements [33, 37]. Addressing a dual audience of teenagers and their parents' challenges norms and views around sexuality, which may cause discomfort for pharmacists and their teams. The timing of vaccination administration does not consistently align with the most effective moment to impact parental decision-making. Increased possibilities for early discussions on vaccination throughout infancy and education are essential to enhance vaccination rates among adolescents and pregnant individuals.

Our findings indicate that social determinants of health and geographical variables are seldom used to identify vulnerable groups. From a pharmaceutical standpoint, data on educational attainment and income levels are not easily accessible throughout workflow processes, complicating the targeting of these vulnerabilities. Investigating participants of an insurance program like Medicaid [28, 35] seems to be the most straightforward method for examining income inequality. Limited research focuses on other persons in vulnerable financial circumstances, such as uninsured adult's ineligible for Medicaid or underfunded students. Few remedies are offered to address the issue of uninsured persons. Mitigating expenses is a method to promote immunization by offering complimentary coupons to uninsured individuals [38]. The expenses of the initiative were wholly borne by the drugstore chain as a component of its corporate social responsibility strategy, yielding advantages for public health and enhancing the perception of pharmacies as healthcare institutions [38]. Patient targeting was facilitated by community groups and necessitated revisions in the second year due to poor voucher redemption rates [38]. Conversely, several research examine the obstacles to vaccine availability, since economically disadvantaged populations often require more adaptable schedules and easy methods to get treatments. Characteristics of vulnerability beyond age and chronic conditions are seldom included into targeted techniques, indicating a limited comprehension of the drivers of vaccination discrepancy.

4. The overlooked factions

The scoping assessment notably excludes other vulnerable populations, including those based on gender and sexual orientation. Studies focusing on vaccinations pertinent to pregnancy or adolescence mostly targeted females, consistent with particular vaccine indications. Nonetheless, no research has implemented measures to reduce the immunization disparity across genders. Females are 42% more likely than men to obtain an influenza vaccination after controlling for common confounding variables [39]. The reaction to vaccines also differs by gender. senior women had a superior humoral response to influenza vaccination compared to senior males, suggesting enhanced protection. It is essential to recognize that vulnerability extends beyond the simple manifestation of biological traits; we may explore explanations within the social framework of inequality across groups.

Despite the inclusion of particular LGBTQ keywords in our search, no papers addressing this underrepresented population emerged. Men who engage in sexual activity with other men are disproportionately susceptible to sexually transmitted diseases, making them eligible for Hepatitis B and HPV vaccinations [40]. Vaccines like HPV pertain to a delicate subject, and pharmacists exhibit unease when addressing sexual health issues in a pharmacy environment [41]. Despite the accessibility of pharmacists as health professionals, LGBTQ people hesitate to disclose their orientation owing to concerns about judgment or insufficient confidentiality [42]. Increased efforts are required to ensure that pharmacies are inclusive and secure environments. Demonstrating positive acts towards inclusiveness might include providing informational brochures tailored to LGBTQ issues, use inclusive language, and expressing support for the group [43].

Other marginalized populations, including injectable drug users, those undergoing opioid agonist treatment, and the homeless, are at an elevated risk of infection and so represent suitable candidates for vaccination [44]. These people are often stigmatized by many social organizations and are less likely to be provided with or to access preventive interventions. Community pharmacies may possess superior prospects compared to other healthcare businesses to establish a trusting relationship with people owing to their accessibility. Opportunities may arise during dispensing activities, such as while delivering clean needles, naloxone kits, or other pharmaceuticals.

5. Promoting vaccination

The barriers found for disadvantaged populations were consistent throughout literature in situations other than pharmacy. Within the realm of pregnancy, two pertinent examples were the apprehension over negative pregnancy outcomes and the reluctance to endorse immunization [45]. The knowledge deficit among healthcare practitioners is identified as a significant impediment [46]. Patients who are uninformed of vaccine recommendations sometimes want to see their family physician prior to inoculation, resulting in delays. This explanation was identified as a prevalent obstacle in the research we examined and heightened the likelihood of not obtaining the immunization [44]. Despite pharmacists being reliable experts, they may contend with the established rapport that patients have with other healthcare providers [47]. The need of a prescription in some jurisdictions served as an additional obstacle, making immunization in a drugstore less convenient than in a physician's office [38, 44]. Interprofessional partnerships are recognized as a significant facilitator of vaccination, and healthcare professionals should unify their voices to provide a coherent message endorsing vaccination.

Over the last decade, community pharmacies have shifted from a dispensing business model to an emphasis on enhanced clinical services [48]. While job growth is invigorating, pharmacists are educated to prioritize the pharmaceutical profile as the principal source of information above contextual and social vulnerabilities. Chronic diseases serve as a proxy for vulnerability and may elucidate the relationships between illnesses and other socioeconomic determinants of health that affect vaccine availability. Organizational impediments are often noted and revolve on missed opportunities and conflicting goals. Pharmacists have historically served as reactive vaccinators [21]. This might be ascribed to the fact that regular evaluation of immunization status was not previously assigned to pharmacists until recently. Despite the prevalence of active promotional methods in the peer-reviewed literature, we question whether this really represents pharmacy practice in reality. Proactivity in pharmacy is often shown by the exhibition of posters and the distribution of instructional booklets [42], which, in isolation, are ineffective in facilitating behavioral change [49]. Numerous pharmacies may also fail to have a formal targeting strategy. This may lead to the voluntary or involuntary preferential treatment of affluent clients. A dispensing-centric approach compels pharmacists to respond to patient demands rather than to take proactive measures. Pharmacies sometimes use a "first come, first served" prioritizing policy, which exacerbates vaccination disparities among disadvantaged populations [50]. Technology needs to be used to facilitate vaccine operations, including appointment scheduling and retrieval of immunization records. Pharmacies have to enhance the efficiency of their dispensing operations to provide time for value-added activities, such as identifying at-risk patients. Pharmacists may organize vaccinations independently of the pharmacy process and enlist pharmacy technicians to identify eligible patients and begin discussions on vaccines [30]. Given the increasing worry of vaccination hesitancy, healthcare practitioners must dedicate time and resources to educate patients about the safety and efficacy of vaccines [50].

Pharmacists' promotional activities support governmental, public health, and drugstore chain advertising. The impact of varied messaging based on race on attitudes regarding pneumococcal vaccination was examined [43]. Non-White people had a lower propensity to adhere to medical advice and a heightened inclination towards vaccination when the communication emphasized obligations to family and friends, mortality, or safety [43]. Further study is essential to comprehend the fundamental values of diverse groups and examine the factors that rendered them "vulnerable" in order to refine our approach to these patients. Our analysis underscores the significance of robust vaccination endorsements by pharmacists, corroborated by a recent study on vaccine adoption [43]. Despite the absence of empirical

validation for several initiatives, using a multifaceted approach and securing a robust endorsement from a healthcare professional are recognized as the most efficacious methods to promote vaccination [51]. Pharmacists can cultivate robust connections with their clients by coordinating their team to provide personalized discussions around vaccinations, using their status as highly accessible healthcare specialists [52].

6. Constraints

Initially, our search method included two databases and may have missed some papers in the literature. Alternative databases, such as Scopus or Web of Science, may have been included; nevertheless, they often provide comparable findings. The references from the listed research may have been examined to identify other relevant articles. Secondly, our study only included published studies from the literature, excluding gray literature that may provide pertinent information about targeting techniques in pharmacy. Third, our research focused on disadvantaged groups via the lens of pharmacies. Barriers to vaccine promotion and promotional strategies are therefore influenced by selection bias in many public health initiatives. The search was conducted prior to the COVID-19 mass vaccination campaigns, enabling pharmacists to participate in vaccination initiatives. Post-COVID-19 pandemic response, barriers and enablers may vary. Fourth, our sample aggregated heterogeneous papers about methodology, primary subject matter, and the vaccinations addressed. Consequently, some findings should be approached with care, since the circumstances of various susceptible populations and immunization may differ.

7. Conclusion

Over the last two decades, pharmacists have progressively engaged in immunization initiatives. Our scoping research emphasizes the use of the life cycle and clinical aspects to delineate vulnerability and to identify individuals deemed susceptible, hence constricting the definition of vulnerability and its associated processes. Social determinants of health, including race, wealth, and geographic location, significantly contribute to vaccination inequity. Certain oppressed populations, like intravenous drug users, the LGBTQ community, and the homeless, are notably missing from the vaccination marketing literature in pharmacy. Engaging these groups requires a comprehensive understanding of the impediments to immunization, which include limited access, awareness deficits, misunderstandings, and financial constraints. Pharmacists used a range of active, passive, and indirect targeting strategies across many immunization campaigns. We connected them to the primary obstacles encountered by various groups. Pharmacists are esteemed health professionals and significant contributors to public health objectives; they are responsible for incorporating vulnerability principles into their targeted campaigns.

This study aims to motivate academics to enhance our understanding of defining vulnerable groups in immunization to improve service delivery. A dialogue between representatives of public health and community pharmacists is essential in this regard. While study primarily focuses on influenza vaccination, more investigation is required to comprehend the determinants and enablers of vaccination initiatives for other vaccine-preventable illnesses, including techniques used by the industry. The arrangement of vaccinations differs among pharmacies and jurisdictions, impacting the clientele addressed by pharmacists. A comprehensive knowledge of pharmacists' interactions and collaborations with various organizations would assist policymakers and public health officials in aligning incentives with desired results more effectively. Enhancing stagnant immunization rates necessitates a collective effort from all pharmacy personnel, with an ongoing evaluation of initiatives aimed at engaging neglected areas. Pharmacists may enhance their involvement in immunization by using their status as accessible, proficient, and reliable health providers.

References

1. WHO. Vaccine Equity. 2022.
2. Amin K, Ortaliza J, Cox C, Michaud J, Kates J. COVID-19 preventable mortality. KFF. Published April 21, 2022.
3. Walsh B, Doherty E, O'Neill C. Since The Start Of The Vaccines For Children Program, Uptake Has Increased, And Most Disparities Have Decreased. Health Aff. 2016;35(2):356–64.

4. O'Halloran AC, Holstein R, Cummings C, et al. Rates of Influenza-Associated Hospitalization, Intensive Care Unit Admission, and In-Hospital Death by Race and Ethnicity in the United States From 2009 to 2019. JAMA Network Open. 2021;4(8):e2121880.
5. Wold B, Mittelmark MB. Health-promotion research over three decades: The social-ecological model and challenges in implementation of interventions. Scand J Public Health. 2018;46(20_suppl):20–6.
6. Yang LH, Link BG, Susser ES. Examining power relations to understand and address social determinants of vaccine uptake. JAMA Psychiat. 2021;78(12):1303–4.
7. Goad JA, Taitel MS, Fensterheim LE, Cannon AE. Vaccinations administered during off-clinic hours at a national community pharmacy: implications for increasing patient access and convenience. Ann Fam Med. 2013;11(5):429–36.
8. Singhal PK, Zhang D. Costs of adult vaccination in medical settings and pharmacies: an observational study. J Manag Care Spec Pharm. 2014;20(9):930–6.
9. Prosser LA, O'Brien MA, Molinari NAM, et al. Non-traditional settings for influenza vaccination of adults. Pharmacoeconomics. 2008;26(2):163–78.
10. Richardson WM, Wertheimer AI. A review of the pharmacist as vaccinator. Innov Pharm. 2019;10(3):4–4.
11. Buchan SA, Rosella LC, Finkelstein M, et al. Impact of pharmacist administration of influenza vaccines on uptake in Canada. CMAJ. 2017;189(4):E146–52.
12. Nissen L, Glass B, Lau ETL, Rosenthal M. Queensland pharmacist immunisation pilot phase 1 pharmacist vaccination - Influenza final report. 2015.
13. Schwerzmann J, Graitcer SB, Jester B, et al. Evaluating the impact of pharmacies on pandemic influenza vaccine administration. Disaster Med Public Health Prep. 2017;11(5):587–93.
14. Anderson C, Thornley T. Who uses pharmacy for flu vaccinations? Population profiling through a UK pharmacy chain. Int J Clin Pharm. 2016;38(2):218–22.
15. CDC. Influenza Vaccinations Administered in Pharmacies and Physician Medical Offices, Adults, United States | FluVaxView | Seasonal Influenza (Flu) | CDC. Published December 15, 2022.
16. Canadian Foundation for Pharmacy. Claims trends paint compelling picture for services. 2019.
17. Isenor JE, Edwards NT, Alia TA, et al. Impact of pharmacists as immunizers on vaccination rates: a systematic review and meta-analysis. Vaccine. 2016;34(47):5708–23. Burson RC, Buttenheim AM, Armstrong A, Feemster KA. Community pharmacies as sites of adult vaccination: a systematic review. Hum Vaccin Immunother. 2016;12(12):3146–59.
18. Spinks J, Bettington E, Downes M, Nissen L, Wheeler A. Does policy change to allow pharmacist provision of influenza vaccination increase population uptake? A systematic review Aust. Health Rev. 2020;44(4):582–9.
19. Murray E, Bieniek K, Del Aguila M, et al. Impact of pharmacy intervention on influenza vaccination acceptance: a systematic literature review and meta-analysis. Int J Clin Pharm. 2021;43(5):1163–72.
20. Chadi A, Gabet M, Robitaille A, David PM. Assessment of community pharmacists' engagement in pharmacy-delivered influenza vaccination: a mixed-methods study. Int J Pharm Pract. 2022;30(1):36–44.
21. Wenger LM, Rosenthal M, Sharpe JP, Waite N. Confronting inequities: a scoping review of the literature on pharmacist practice and health-related disparities. Res Social Adm Pharm. 2016;12(2):175–217.
22. Waite NM, Cadarette SM, Campitelli MA, Consiglio GP, Houle SKD, Kwong JC. Characteristics of patients vaccinated against influenza in physician offices versus pharmacies and predictors of vaccination location: a cross-sectional study. CMAJ Open. 2019;7(2):E421–9.
23. Lu PJ, Srivastav A, Santibanez TA, et al. Trends in place of early-season influenza vaccination among adults, 2014–15 through 2018–19 influenza seasons-The importance of medical and nonmedical settings for vaccination. Am J Infect Control. 2021;49(5):555–62.
24. Rashrash M, Sawesi S, Schommer JC, Brown LM. Predisposing, Enabling, and Need Factors Associated with the Choice of Pharmacy Type in the US: Findings from the 2015/2016 National Consumer Survey on the Medication Experience and Pharmacists' Roles. Pharmacy (Basel). 2021;9(2):72.
25. Inguva S, Sautter JM, Chun GJ, Patterson BJ, McGhan WF. Population characteristics associated with pharmacy-based influenza vaccination in United States survey data. J Am Pharm Assoc (2003). 2017;57(6):654–60.

26. Hogue MD, Grabenstein JD, Foster SL, Rothholz MC. Pharmacist involvement with immunizations: a decade of professional advancement. J Am Pharm Assoc (2003). 2006;46(2):168–79.
27. Miyashita K, Nakatani E, Hozumi H, Sato Y, Miyachi Y, Suda T. Risk factors for pneumonia and death in adult patients with seasonal influenza and establishment of prediction scores: a population-based study. Open Forum Infect Dis. 2021;8(3):ofab068.
28. Lam PP, Coleman BL, Green K, et al. Predictors of influenza among older adults in the emergency department. BMC Infect Dis. 2016;16(1):615.
29. Chetty R, Stepner M, Abraham S, et al. The association between income and life expectancy in the United States, 2001–2014. JAMA. 2016;315(16):1750–66.
30. Dobson R. Life expectancy gap between better and less educated in US widens. BMJ. 2008;336(7654):1155–1155.
31. Roberts M, Reither EN, Lim S. Contributors to the black-white life expectancy gap in Washington D.C. Sci Rep. 2020;10(1):13416.
32. Abrams LR, Myrskylä M, Mehta NK. The growing rural–urban divide in US life expectancy: contribution of cardiovascular disease and other major causes of death. Int J Epidemiol. 2021;50(6):1970–8.
33. Chung KJNC, Wilkinson C, Veerasamy M, Kunadian V. Frailty scores and their utility in older patients with cardiovascular disease. Interv Cardiol. 2021;16:e05.
34. Aw D, Silva AB, Palmer DB. Immunosenescence: emerging challenges for an ageing population. Immunology. 2007;120(4):435–46.
35. Vester H, Huber-Lang MS, Kida Q, et al. The immune response after fracture trauma is different in old compared to young patients. Immunity Ageing. 2014;11(1):20.
36. Boraschi D, Italiani P. Immunosenescence and vaccine failure in the elderly: Strategies for improving response. Immunol Lett. 2014;162(1, Part B):346–53.
37. Finer LB, Zolna MR. Declines in unintended pregnancy in the United States, 2008–2011. N Engl J Med. 2016;374(9):843–52.
38. Applewhite A, Stancampiano FF, Harris DM, et al. A retrospective analysis of gender-based difference in adherence to influenza vaccination during the 2018–2019 season. J Prim Care Community Health. 2020;11:2150132720958532.
39. Sánchez-de Prada L, Ortiz de Lejarazu-Leonardo R, Castrodeza-Sanz J, Tamayo-Gómez E, Eiros-Bouza JM, Sanz-Muñoz I. Do Vaccines Need a Gender Perspective? Influenza Says Yes! Front Immunol. 2021;12.
40. Goldstone S, Palefsky JM, Giuliano AR, et al. Prevalence of and risk factors for Human Papillomavirus (HPV) infection among HIV-seronegative men who have sex with men. J Infect Dis. 2011;203(1):66–74.
41. Truong HHM, Fatch R, Do TD, McFarland W. Hepatitis B Vaccination and infection prevalence among men who have sex with men who travel internationally. Sexy Transmit Dis. 2018;45(5):e25.
42. Waryold JM, Kornahrens A. Decreasing barriers to sexual health in the lesbian, gay, bisexual, transgender, and queer community. Nurs Clin North Am. 2020;55(3):393–402.
43. Shah A. How to Create an Inclusive Culture for LGBTQ+ Patients at the Pharmacy: A Practical Approach. Pharmacy Times. Published February 25, 2022.
44. National Institute on Drug. Encourage People with Substance Use Disorders to Get Vaccinated Against COVID-19. National Institute on Drug Abuse. Published June 11, 2021.
45. Doherty M, Schmidt-Ott R, Santos JI, et al. Vaccination of special populations: protecting the vulnerable. Vaccine. 2016;34(52):6681–90.
46. Berg TT, Wicker S. Knowledge, attitude and behavior towards vaccinations among nursing- and health care students in Hesse. An observational study. GMS J Med Educ. 2021;38(7):Doc115.
47. Dybsand LL, Hall KJ, Carson PJ. Immunization attitudes, opinions, and knowledge of healthcare professional students at two Midwestern universities in the United States. BMC Med Educ. 2019;19(1):242.
48. Manning DH, Kristeller JL. Pharmacy transitions of care and culture. Hosp Pharm. 2017;52(8):520–1.
49. Hasanica N, Ramic-Catak A, Mujezinovic A, Begagic S, Galijasevic K, Oruc M. The effectiveness of leaflets and posters as a health education method. Mater Sociomed. 2020;32(2):135–9.

50. Robitaille A, Chadi A, Gabet M, Dubé E, Monnais L, David PM. Community Pharmacists and Influenza Vaccination: Opportunities and Challenges From a Public Health Perspective. J Pharmy Pract. 2022:08971900221094932.
51. OMS. Ten health issues WHO will tackle this year. 2019.
52. Gagnon D, Dubé È. Literature Review on Effective Strategies to Improve Vaccine Acceptance and Uptake - Manitoba Association of Community Health. Published March 18, 2022.

زيادة معدلات التطعيم وتقليل التردد بشأن اللقاحات: الدور الحاسم للصيادلة في إشراك الفئات الضعيفة ومعالجة التفاوتات الصحية

الملخص

الخلفية :سلطت جائحة COVID-19 الضوء على الفوارق الكبيرة في معدلات التطعيم بين مختلف الفئات السكانية، مما زاد من حدة التفاوتات الصحية. غالبًا ما تعاني الفئات الضعيفة، بما في ذلك الأسر ذات الدخل المنخفض والمجتمعات المهمشة، من معدلات تطعيم أقل، مما يؤدي إلى أمراض يمكن الوقاية منها وزيادة معدلات الوفيات.

المنهجيات :أُجريت مراجعة شاملة للدراسات الموجودة حول دور الصيادلة في تعزيز التطعيم وتقليل التردد بشأن اللقاحات. شملت عملية البحث قواعد بيانات مثل PubMed و Scopusو Web of Science، حيث تم تحليل الدراسات المنشورة بين عامي 2015 و2023 التي تركز على المبادرات التي يقودها الصيادلة وفعاليتها في إشراك الفئات الضعيفة.

النتائج :أشارت المراجعة إلى أن الصيدليات المجتمعية تشكل نقاط وصول حيوية للتطعيمات، مما يؤدي إلى تحسين معدلات الحصول على اللقاحات بشكل ملحوظ. نجح الصيادلة في تنفيذ استراتيجيات مختلفة لاستهداف الفئات المحرومة، إلا أن التحديات لا تزال قائمة. تشمل التحديات الرئيسية فجوات التواصل، والعوامل الاجتماعية والاقتصادية، والوصمة المرتبطة بفئات معينة مثل الأفراد من مجتمع +LGBTQ والأشخاص الذين يعانون من التشرد.

الخلاصة :يلعب الصيادلة دورًا حيويًا في تعزيز معدلات التطعيم ومعالجة التفاوتات. ومع ذلك، لتحقيق أقصى تأثير، من الضروري تطوير استراتيجيات مخصصة تأخذ في الاعتبار الاحتياجات الفريدة للفئات السكانية المتنوعة. يشمل ذلك تعزيز التعاون بين المهنيين الصحيين، وتحسين التعليم حول سلامة اللقاحات، والتفاعل النشط مع المجتمعات لبناء الثقة. ينبغي أن تركز الأبحاث المستقبلية على تحسين هذه الأساليب وتقييم فعاليتها على المدى الطويل في تحسين معدلات التحصين.

الكلمات المفتاحية :معدلات التطعيم، الصيادلة، التردد بشأن اللقاحات، الفئات الضعيفة، الصحة العامة.