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Adverse event associated with a change in nonprescription syringe sale policy

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Abstract

Objective—To report and describe the possible correlation of a change in syringe sale policy at a community pharmacy with an adverse clinical outcome.

Setting—Providence, RI, in summer 2009.

Patient description—27-year-old white woman with a long-standing history of chronic relapsing opiate addiction and human immunodeficiency virus (HIV)/hepatitis C virus (HCV) coinfection.

Case summary—The patient presented to the hospital emergency department with 5 days of severe diffuse pain, swelling in her hands and feet, and several days of rigors with fevers, sweats, and chills. She was diagnosed with sepsis resulting from a disseminated methicillin-resistant *Staphylococcus aureus* (MRSA) infection. The patient was treated with intravenous antibiotics, neurosurgical drainage of an epidural abscess, intensive care unit care for 1 week, and acute hospitalization for 8 weeks.

Main outcome measures—Not applicable.

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Results—A few weeks before the patient was hospitalized, pharmacists at her local neighborhood pharmacy decided to stop selling syringes in packages of 10. Instead, syringes were sold at a minimum quantity of 100. The patient did not know where to obtain sterile syringes and began reusing syringes.

Conclusion—The patient introduced pathogenic bacteria from her skin into her bloodstream through unsafe injection practices. The change in syringe sale policy at her local pharmacy likely inadvertently contributed to this severe and life-threatening situation. Consideration of the implications of syringe sale policy must include an understanding of the barriers that influence individual pharmacist's decisions regarding particular store policies that affect over-the-counter syringe sales. Legalized sale of nonprescription syringes in community pharmacies alone is not enough to curb the epidemic of unsafe injection practices in the United States. All medical risks that are inherent in the use of unsafe syringes, including blood-borne viral pathogens (e.g., HIV, HCV) and bacterial infections (e.g., MRSA), should be considered.

Keywords

Nonprescription syringe sales; OTC products; case report; bacterial infections; pharmacists; injection drug users; Rhode Island

A major and proven public health strategy to reduce infections related to injection drug use has been to increase injection drug users' (IDUs') access to sterile syringes. This has been documented to reduce syringe sharing and reuse without increasing illicit drug use.^{1,2} Since the 1980s, syringe exchange programs have been successful in increasing access to sterile syringes.³ However, restricted program locations and hours limit use of these services by IDUs.

Currently, sale of nonprescription syringes in pharmacies is legal in 45 states.⁴ Nationally, syringe exchange programs and funding for expanded syringe access have been repeatedly demonstrated to be cost-effective human immunodeficiency virus (HIV) prevention efforts.^{5,6} Additionally, syringe exchange programs are effective at reducing HIV incidence⁷ and do not result in an increase in injection drug use.⁸ The sale of syringes to IDUs in pharmacies, however, may indeed be the most cost-effective and convenient avenue of access,⁶ as federal restrictions on funding for syringe exchange programs limit their scope and relevance.

The current work describes the case of a woman with a long-standing history of injection drug use who had a near-fatal systemic bacterial infection caused by injection of heroin with reused contaminated syringes. The infection occurred shortly after a change in syringe sale policy at her local community pharmacy that coincided with her reduced use of a new sterile syringe for each injection.

Patient case

The patient was a 27-year-old woman with more than 1 decade of chronic relapsing opiate injection and HIV/hepatitis C virus (HCV) coinfection. She injected heroin a minimum of three to four times daily, which she perceived as necessary to retain her ability to function. She did not have any form of private or public health insurance.

She had moved from New York City to Rhode Island approximately 1 year before admission. After arriving in Rhode Island, she was diagnosed with HIV and posttraumatic stress disorder. She was able to obtain stable housing and supported herself with commercial sex work. Her apartment was located near a community pharmacy that sold nonprescription syringes in packs of 10 for less than \$3. Approximately 2 weeks before admission, however,

the pharmacy discontinued the sale of packs of 10 syringes. Instead, they began selling boxes of 100 syringes. With this change in pharmacy policy, the patient did not purchase boxes of 100 syringes. The patient stated that compared with packages of 10 syringes, the packages of 100 syringes were too costly and too difficult to conceal while leaving the pharmacy. She reported subsequently reusing her syringes until they were too dull and painful to use and then began purchasing syringes from unreliable sources, including patients with diabetes and other IDUs. After communication with the authors about this case, the pharmacy reverted to its previous policy of allowing the purchase of syringes in packs of 10.

The patient presented to the hospital emergency department complaining of severe pain, swelling in her hands and feet, and several days of rigors with fevers, sweats, and chills. She was diagnosed with a methicillin-resistant *Staphylococcus aureus* (MRSA) infection that disseminated to her bloodstream, spinal canal, retroperitoneal presacral and prevertebral areas, and paraspinal muscles, hands, feet, and left hip. An magnetic resonance imaging scan revealed multiple loculated paraspinal abscesses and a T3 to T6 thoracic dorsal epidural abscess with spinal cord compression. The patient was treated with approximately 1 week of ICU care, intravenous antibiotics, neurosurgical drainage of the epidural abscess, and 8 weeks of acute hospitalization.

Discussion

This case highlights the important role that pharmacies play in providing access to sterile syringes and that limiting access to sterile syringes in pharmacies can have considerable, albeit often unintended, consequences to syringe purchasers in the community. With the change in policy at her local pharmacy, this patient started reusing syringes without cleaning them because she did not perceive that her used syringes were unsanitary or potentially dangerous. These unsafe injection practices most likely caused her MRSA infection. Although the pharmacy policy change did not directly cause the MRSA infection, the patient's unsafe injection practices were adversely influenced by the change in syringe sales. Results from a modified Naranjo scale (Appendix 1 in the electronic version of this article, available online at www.japha.org) indicated that the patient's use of an unsterile syringe was "probably related" to her MRSA infection.

For many pharmacists, both perceived and real concerns exist regarding sale of syringes to IDUs. As a response, some community pharmacists and store managers may opt to sell syringes in large quantities only, at prices that can be prohibitive to most IDUs, in order to deter syringe sales and associated problems. However, this practice is highly variable, and the decision to sell syringes in specific quantities is left to the discretion of individual pharmacists and pharmacy managers. Further, pharmacy staff, including technicians and interns on different shifts at the same store, may have inconsistent syringe-selling practices, including refusal to sell or selling in quantities not consistent with established store policy.

Rhode Island and many other states' laws allow individuals to possess hypodermic syringes without a prescription and permit pharmacists to sell nonprescription syringes.⁹ In Rhode Island, the law does not, however, set guidelines for quantities or accessibility and does not require pharmacists to sell over-the-counter syringes or refer patients to another pharmacy. In this instance, although the patient could have attained sterile syringes from other nearby pharmacies, we believe that she should have been able to access sterile syringes in affordable and manageable quantities at any pharmacy.

In community chain pharmacies, store policy is not only determined by the pharmacist, pharmacy manager, and store manager, as described above; it is also influenced by state law,

law enforcement officials, corporate policy, and district managers. In areas with a high prevalence of injection drug use, some pharmacists have found a great challenge with foot traffic, inappropriate syringe disposal, and shoplifting.^{10,11} Other pharmacists fear that syringe sales will be bad for business.^{12,13} For the pharmacist who is willing to sell syringes, acquiring and maintaining adequate on-site syringe disposal can pose a great financial and logistical challenge. Further, formal education of pharmacists on illicit injection drug use and addiction is limited.¹⁴ In spite of these problems (and often in response to local need), many pharmacists understand the public health importance of access to sterile syringes and sell syringes in single packs or packs of 10.

Despite the challenges of syringe sales in community pharmacies, many positive reasons exist for pharmacist sale of syringes in lower quantities, such as single syringes or packs of 10. Such sales are a harm-reduction measure used to encourage safe injection practices among IDUs. This measure can be beneficially bolstered by discussions of preparation, safe injection practices, and safe and appropriate disposal of injection equipment. Pharmacists and pharmacy staff who sell syringes to IDUs are presented with a unique opportunity that has the potential to develop into a therapeutic relationship that could lead to safer injection behavior, referral to medical care, social services, and/or addiction treatment and even discontinuation of drug injection. These services have already been shown to be critical secondary benefits of syringe exchange programs and may be replicable in the community pharmacy setting.¹⁵

Discussion of access to clean syringes for IDUs often centers on transmission of HIV or HCV—costly and dangerous infections that may take years to fully realize their devastating effects. Consideration, however, must also be given to the immediate danger inherent in a lack of access to clean syringes. The use of unsafe syringes can easily result in abscesses or other perilous infections,^{16,17} such as the near-fatal MRSA infection described here. Perhaps more importantly, the case described in the current work sheds light on the complexity surrounding access to clean syringes. For this patient, the local pharmacy was central to her safe injection practices, as she had no knowledge of the state's syringe exchange program and did not find a new reliable source of clean and affordable syringes. Although the specific situation of this patient may indeed be unique, it nevertheless provides an opportunity to raise general awareness of the implications of syringe sale policies.

Conclusion

Having an understanding of the potential benefits of pharmacy syringe sales (such as preventing infections and engaging a high-risk population in medical and addiction treatment) and the barriers that affect pharmacies and individual pharmacist's decisions to sell syringes and to sell them in affordable and manageable quantities is important. Legalization of the sale and possession of nonprescription syringes has been extremely helpful in reducing HIV transmission in Rhode Island and elsewhere; however, substantial challenges to reducing unsafe injection of illicit substances remain. Pharmacists have an opportunity to play a critical role in the prevention of serious and potentially deadly infections by providing access to sterile syringes. Additionally, pharmacists, similar to syringe exchange program workers, can develop relationships to encourage healthy behaviors among IDUs and provide important prevention services, including vaccination, overdose prevention materials, and HIV testing and other screening, to this highly underserved population.

At a Glance

Synopsis

A woman with a history of chronic relapsing opiate addiction and human immunodeficiency virus (HIV)/hepatitis C virus (HCV) coinfection was unable to purchase syringes in packs of 10 at her community pharmacy, as it had discontinued sale of that quantity and was selling syringes at a minimum quantity of 100. She therefore began reusing syringes and developed methicillin-resistant *Staphylococcus aureus* (MRSA) infection. The case described here highlights the important role that pharmacies play in providing access to sterile syringes and that limiting access to sterile syringes in pharmacies can have considerable, albeit often unintended, consequences to syringe purchasers in the community.

Analysis

Pharmacists and pharmacy staff who sell syringes to injection drug users (IDUs) are presented with a unique opportunity that has the potential to develop into a therapeutic relationship leading to safer injection behavior, referral to medical care, social services, and/or addiction treatment and even discontinuation of drug injection. Discussion of access to clean syringes for IDUs frequently focuses on transmission of HIV or HCV. Consideration, however, must also be given to the immediate danger inherent in a lack of access to clean syringes. Use of unsafe syringes can easily result in abscesses or other perilous infections such as MRSA. The case described here sheds light on the complexity surrounding access to clean syringes and provides an opportunity to raise general awareness of the implications of syringe sale policies.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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