

Sexual Health Code Mobile Application to Reduce Transmission of Sexual Diseases

kadir uludag¹

¹Affiliation not available

October 05, 2022

Abstract

Sexual diseases are widespread, although many people are unaware of their high prevalence and potential risks of being infected by sexual diseases such as human papillomavirus, human immunodeficiency virus, syphilis, and gonococcal infection. Furthermore, due to the associated social stigma with sexual disorders, individuals are inclined not to reveal their previous or current sexual diseases. Therefore, sexual diseases slowly and insidiously spread among healthy individuals. Prevention methods have been developed to increase awareness of these diseases. However, further measurements are necessary to reduce the spread of sexual disorders. Thus, we aim to discuss the potential benefits and risks of sexual health code application to record previous sexual partners without revealing their identities. Such applications may also notify last sexual partners in case of present sexual diseases. Thereby, it may increase testing for sexual diseases in those individuals with sexual diseases. If they were not appropriately tested, the application may have a notification that can only be removed after the sexual examination shows they do not have the contagious sexual disease.

”Sexual Health Code Mobile Application to Reduce Transmission of Sexual Diseases”

Commentary Article

Abstract

Sexual diseases are widespread, although many people are unaware of their high prevalence and potential risks of being infected by sexual diseases such as human papillomavirus, human immunodeficiency virus, syphilis, and gonococcal infection. Furthermore, due to the associated social stigma with sexual disorders, individuals are inclined not to reveal their previous or current sexual diseases. Therefore, sexual diseases slowly and insidiously spread among healthy individuals. Prevention methods have been developed to increase awareness of these diseases. However, further measurements are necessary to reduce the spread of sexual disorders. Thus, we aim to discuss the potential benefits and risks of sexual health code application to record previous sexual partners without revealing their identities. Such applications may also notify last sexual partners in case of present sexual diseases. Thereby, it may increase testing for sexual diseases in those individuals with sexual diseases. If they were not appropriately tested, the application may have a notification that can only be removed after the sexual examination shows they do not have the contagious sexual disease.

Keywords: sexual health code, prevention, sexual diseases, epidemiology

Abbreviations: STD, sexually transmitted disease.

1. Introduction

Sexually transmitted diseases (STDs) refer to infections transmitted through sexual acts ¹. Sexually transmitted diseases are common problems worldwide and may involve skin-to-skin contact to infect others ². Common sexual diseases include chlamydia, syphilis, gonococcal infection, chancroid, lymphogranuloma

venereum, granuloma inguinale, and herpes. Moreover, some sexual diseases that may chronically impact similar viral infections can account for nearly all sexual behavior-related deaths³. STDs are among the essential ten causes of diseases in adult males and females in developing countries⁴.

Various models can examine heterogeneity in sexual behavior and calculate how different variations impact epidemiologic patterns such as heterogeneity in sex acts and having many sex partners^{5,6}.

Prevention of STDs includes assessing behavioral risk (e.g., risky sexual behavior) related to heterogeneity¹. Individual health codes that give information about sexual diseases can be used to increase awareness and reduce the spread of disease. Recently, the health-code-based triage system showed high effectiveness in triaging patients with epidemiological history in China⁷. Especially, the onset of COVID-19 has raised a substantial increase in the use of health tracking technologies⁸ supported by the health applications of the government. Based on one's health data, a code representing personal health conditions is created by verifying what the resident reports⁹. In addition, health codes were used for various health tracking in cardiac¹⁰ and pregnancy¹¹.

Collectively, changing the selection of sexual partners and avoiding certain sexual practices may reduce the risk of infection¹². Considering it, sexual health code applications supported by government health applications can help improve awareness and reduce STDs' prevalence.

The functionality and design of the sexual health code are essential determinants of the application's success. Firstly, individuals or both partners should voluntarily select whether they want to use it or not. Moreover, the application can include vaccination information to foster vaccination related to sexual health and help to calculate potential future risks. It should be supported by other government health applications to allow using official sexual test results to be processed. If the previous partner was detected positive, individuals should go to the hospital to be tested. If they were not appropriately tested, the application might have a notification that can only be removed after the sexual examination that shows they do not have the contagious sexual disease. Furthermore, the application should include the period of intercourse.

Privacy issues and how to store health data are some of the main concerns of the health code. National legislatures should embrace sufficient ethical principles to ensure that health tracking policies will be strictly prescribed by law¹³. Application-makers should pay maximum attention to issues of confidentiality and anonymity. Their name or national identity numbers should not be stored by the application to avoid potential stigma. Their previous sexual diseases can be removed if tested negative, and they should be able to delete the application later.

There is a possibility that couples are not interested in registering for the sexual health application. Furthermore, it may lead people to think that if there is no sexual notification, they are safe to have intercourse. Thus, necessary precautions should be taken to minimize the risks associated with using the application.

In the long term, sexual health applications may increase awareness of sexual diseases, thereby reducing the prevalence of sexual disorders. However, there are still limitations, such as intergenerational differences in mobile phones, as some prefer not to use mobile applications¹⁴. Furthermore, ethical guidelines and strict health surveillance policies for health tracking apps are necessary to protect the citizens.

Conflict of Interest Statement

There is no conflict of interest to state in this study.

Acknowledgments

None.

References:

1. Workowski KA, Bolan GA, Centers for Disease C, Prevention. Sexually transmitted diseases treatment guidelines, 2015. *MMWR Recomm Rep* . 2015;64(RR-03):1-137.

2. Brown TJ, Yen-Moore A, Tyring SK. An overview of sexually transmitted diseases. Part I. *Journal of the American Academy of Dermatology* . 1999/10/01/ 1999;41(4):511-529. doi:[https://doi.org/10.1016/S0190-9622\(99\)80045-0](https://doi.org/10.1016/S0190-9622(99)80045-0)
3. Ebrahim S, McKenna M, Marks J. Sexual behaviour: related adverse health burden in the United States. *Sexually Transmitted Infections* . 2005;81(1):38-40.
4. Da Ros CT, Da Silva Schmitt C. Global epidemiology of sexually transmitted diseases. *Asian Journal of Andrology* . 2008;10(1):110-114. doi:<https://doi.org/10.1111/j.1745-7262.2008.00367.x>
5. Garnett GP, Anderson RM. Sexually Transmitted Diseases And Sexual Behavior: Insights From Mathematical Models. *The Journal of Infectious Diseases* . 1996;174(Supplement_2):S150-S161. doi:[10.1093/infdis/174.Supplement_2.S150](https://doi.org/10.1093/infdis/174.Supplement_2.S150)
6. Eames KTD, Keeling MJ. Monogamous networks and the spread of sexually transmitted diseases. *Mathematical Biosciences* . 2004/06/01/ 2004;189(2):115-130. doi:<https://doi.org/10.1016/j.mbs.2004.02.003>
7. Chen S, Liu T, Li X, et al. Health QR Code Application in the Novel Containment Strategy and Healthcare Plan for Pregnant Women and Children Under Quarantine During the Summer Outbreak of SARS-CoV-2 Delta Variant in Chengdu, China: An Observational Study. *Risk Manag Healthc Policy* . 2021;14:4499-4510. doi:[10.2147/RMHP.S335803](https://doi.org/10.2147/RMHP.S335803)
8. Yang F, Heemsbergen L, Fordyce R. Comparative analysis of China's Health Code, Australia's COVIDSafe and New Zealand's COVID Tracer Surveillance Apps: a new corona of public health governmentality? *Media International Australia* . 2021;178(1):182-197.
9. Wang Z, Shan J, Pan Y. Design and Interface Specification of the Health Code. 2021:2483-2487.
10. Modena BD, Bellahsen O, Nikzad N, et al. Advanced and Accurate Mobile Health Tracking Devices Record New Cardiac Vital Signs. *Hypertension* . 2018;72(2):503-510. doi:[10.1161/HYPERTENSIONAHA.118.11177](https://doi.org/10.1161/HYPERTENSIONAHA.118.11177)
11. Liu B, Shi S, Wu Y, et al. Predicting pregnancy using large-scale data from a women's health tracking mobile application. presented at: The World Wide Web Conference; 2019; San Francisco, CA, USA. <https://doi.org/10.1145/3308558.3313512>
12. Stone KM, Grimes DA, Magder LS. Primary Prevention of Sexually Transmitted Diseases: A Primer for Clinicians. *JAMA* . 1986;255(13):1763-1766. doi:[10.1001/jama.1986.03370130119035](https://doi.org/10.1001/jama.1986.03370130119035)
13. Nay O. Can a virus undermine human rights? *The Lancet Public Health* . 2020/05/01/ 2020;5(5):e238-e239. doi:[https://doi.org/10.1016/S2468-2667\(20\)30092-X](https://doi.org/10.1016/S2468-2667(20)30092-X)
14. Wu J, Xie X, Yang L, et al. Mobile health technology combats COVID-19 in China. *Journal of Infection* . 2021/01/01/ 2021;82(1):159-198. doi:<https://doi.org/10.1016/j.jinf.2020.07.024>