کارگاه‌های آموزشی مرکز اطلاعات علمی

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اصول تنظیم قراردادها

آموزش مهارت های کاربردی در تدوین و چاپ مقاله
PREVALENCE OF HEPATITIS B, HEPATITIS C, HUMAN IMMUNODEFICIENCY VIRUS, AND SYPHILIS AMONG STREET CHILDREN RESIDING IN SOUTHERN TEHRAN, IRAN

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Street children are among vulnerable people in the world. They are one of the main groups in the society who affect the pattern of health. To determine the prevalence of hepatitis B, hepatitis C, human immunodeficiency viruses (HIV), and syphilis among street children residing in southern Tehran, Iran. In a cross-sectional study, we selected 102 children aged below 15 years from southern Tehran. The selected children had an interview and were examined. From each child a blood sample was taken and tested for anti-HIV (ELISA), anti-HCV (ELISA), HBsAg (ELISA), anti-HBs, anti-HBc (radioimmunoassay [RIA]), rapid plasma reagin (RPR), and fluorescent treponema antibody absorption (FTA-ABS). We studied 39 (38%) boys and 63 (62%) girls, including 79 (77%) Afghan and 16 (16%) Iranian children. The nationality of 8 children could not be identified. The children were negative for syphilis, HIV, and HCV. Nevertheless, 3 of them were positive for HBsAg and 15 were HBsAb positive (>10 MIU/mL). The majority of street children are immigrants. Although these children did not have syphilis, HIV, and HCV, they are at risk of HBV.

Keywords: Hepatitis B virus • hepatitis C virus • human immunodeficiency virus (HIV) • street children • syphilis

Introduction

Approximately ten million children round the globe are homeless and 150 million spend much of their time on the streets.1–5 Living in street, availability of cheap or even free drugs, poverty, sexual and physical abuse, and lack of family and social supports can remarkably affect the health of these children and the society.1–5 So far, almost all reports came from western countries and little information on this issue are available from our region.

Living in streets has catastrophic consequen-

ces.4 In a recent study conducted in Tehran, the prevalence of sexual abuse among these children was 20.9%.6 The abusers were unidentified in most instances. This study also showed that more than 40% of the studied boys and more than 80% of the girls had degrees of depression.4 Association of depression and sexual abuse, especially in cases of rape, have been reported earlier.7 The current study was conducted to determine the prevalence of hepatitis B, hepatitis C, human immunodeficiency virus (HIV), and syphilis among street children residing in southern Tehran, Iran

Patients and Methods

In a cross-sectional study, street children observed in one area of Tehran were enrolled into this study. Since selection of these children, whose ages were under 15 years, from the streets was illegal, after taking the necessary consents from Behzisti Organization, Street Children Supportive...
Organization, and Health Ministry, we attended the weekly center of these children in Shoosh Street. Based on their registry, we selected children under 15 years of age from southern Tehran. After interviewing with their families and explaining our research objectives, at the first visit, we took a thorough history and did a physical examination of the children. Blood samples were also taken and sent to the laboratory.

Serum samples were tested for anti-HIV (ELISA), anti-HCV (ELISA), HBsAg (ELISA), anti-HBsAb, anti-HBeAb (radioimmunoassay [RIA]), rapid plasma reagin (RPR), and fluorescent treponema antibody absorption (FTA-ABS). When the first anti-HIV test was positive, we took a second sample and tested it with Western blot. When the serum sample for HBsAg became positive, regardless of its titer, the patients were referred to a specialist. When despite a negative HBsAg, the anti-HBsAb became positive, we then asked for the history of vaccination. Those children with negative vaccination history were considered to have recent infection and were treated accordingly. When anti-HCV became positive, we then checked recombinant immunoblot assay (RIBA) and HCV RNA. RPR for screen and FTA-ABS were used for the diagnosis of syphilis.

**Results**

We studied 102 street children including 39 (38%) boys and 63 (62%) girls. Of these, 79 (77%) were Afghan and 16 (16%) were Iranian children. Nationalities of 8 children could not be identified. They had a mean ± SD age of 10.1 ± 3.0 and a mean ± SD education of 5.6 ± 2.3 years. The frequency of transfusion, tattoo, and jaundice in their family and the prevalence of addiction in their first-degree relatives are shown in Table 1. Thirty-seven (36%; 95% CI: 27 – 46%) children had a history of generalized itching and 11 (11%; 95% CI: 5 – 17%) had a history of passing dark urine. On physical examination, jaundice, hepatomegaly, pitting edema, and easy bruising were present in some of the studied children (Table 2).

All of the children were negative for syphilis, HIV, and HCV. Nonetheless, three (3%; 95% CI: 0 – 6%) were positive for HBsAg and 15 (15%; 95% CI: 8 – 22%) were anti-HBsAb positive (>10 MIU/mL).

**Discussion**

There is little information on the distribution of sexually-transmitted diseases (STD) in Iran. We found that the majority of street children are immigrants. This dominance, however, could exert a selection bias in determining the disease prevalence. Another important finding of our study was that many of these children were not really homeless. Many of them are living with their families and are even responsible for finding the money for their relatives. Most of these children who spend much of their time in the street are at higher risk of viral diseases for contact with drug abusers, and sex traders. Around 17% of the studied children were exposed to hepatitis B. Though, it was not documented, none of these children had known preceding vaccination. Three children who were positive for HBsAg were referred to a specialist for follow-up. Although we could not find any cases of HIV, HCV, or syphilis in the studied children, we believe they are at a higher risk in the future. We found that, in our country, poverty is the main motivation for street children. In other regions of the world, the problems are different. As examples, in San Paolo, lack of family and social support in America, having sex for money; and in Thailand; and Far West Asia, sex trade are the main problems.

Generalized itching was the most important symptom found in these children (Table 1). It was believed that the itching was mainly due to exposure of these children to environmental allergens, irritants, and chemical agents rather than a manifestation of a specific disease.

This study suffered from several limitations.
The low sample size, financial constrains, convincing the parents to take part in the study, legal restraints, and the sampling technique used, all hampered the internal and external validities of this study. High expenditure of laboratory tests was also another problem we faced.

These innocent members of the population are in desperate need of attention. No doubt, further studies should be done to assess the needs of and to help these vulnerable forgotten people.

Compared with children studied in other countries, the children evaluated in this study were not separated from their families.

References

5 Massimo Calabresi. Romania’s last dictator left behind a society unable and unwilling to take care of its children. TIME International. 1996; 147: 26.
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