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Vaccination coverage among social and healthcare workers in ten countries of Samu-social international sites

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ABSTRACT

Background: We aim to determine the vaccination coverage of social and healthcare workers in International sites of Samusocial, providing emergency care to homeless people, and to assess factors associated with having received necessary doses at adulthood.

Methods: Data on immunization coverage of social and healthcare workers were provided by a cross-sectional survey, conducted from February to April 2015 among 252 Samusocial workers in 10 countries. Vaccination status and characteristics of participants were collected through a self-administered questionnaire. Prevalence rate ratio (PRR) of vaccination status was calculated using Poisson regression models.

Results: Among 252 Samusocial social and health workers who felt a questionnaire, median age was 39 years, 42.1% were female, 88.9% were in contact with homeless beneficiaries (19.1% health workers). Overall, 90.1% of Samusocial staff felt adult vaccinations was useful and 70.2% wished to receive booster doses in future. Vaccination coverage at adulthood was satisfactory for diphtheria and poliomyelitis (96%), but low for influenza (20.8%), meningococcus (50.5%), hepatitis B (56.3%), yellow fever (58.1%), measles (81.3%) and pertussis (90.7%). The main reasons for not having received vaccination booster doses were forgetting the dates of booster doses (38.4%) and not having received the information (13.5%). In adjusted analysis, prevalence of up-to-date for vaccination schedule was 35% higher among health workers than among social workers (aPRR = 1.35, 95%CI: 1.01–1.82, P = 0.05) and was 56% higher among workers who had a documentary evidence of vaccination than in those who did (aPRR = 1.56, 95% CI: 1.19–2.02, P = 0.001).

Conclusions: The Samusocial International workers vaccine coverage at adulthood was insufficient and disparate by region. It is necessary to strengthen the outreach of this staff and increase immunization policy for hepatitis B, diphtheria, tetanus, and measles, as well as for yellow fever, rabies and meningococcal ACYW135 vaccines in at risk regions.

1. Introduction

In high-income countries as in low-income countries, homeless people continues to increase each year huge In large cities, and live in the streets without any access to basic services and far from accessing economical opportunities [1]. Xavier Emmanuelli

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launched the first Samusocial in Paris, France, in 1993 in order to respond to the needs of these persons in great exclusion. Five years after the French experiment, devices were created outside France. From 1999 to 2014, Samusocial devices have been launched in 14 countries that gather in a common coordination called Samusocial International (SSI) [2].

Several countries had implemented healthcare workers national policies. The objectives of these vaccinations are to protect healthcare workers from occupational exposure, but also to protect their patients, who may be unvaccinated because of missed opportunities or anti-vaccination opinions, may not develop a satisfactory immune response after getting vaccinated (e.g. immunocompromised persons), or may not be eligible for vaccination (e.g. influenza vaccines not licensed for infants <6 months old) [3]. WHO statement in 2015 recommended for healthcare workers, worldwide protection against hepatitis B, poliomyelitis (full primary immunization schedule), diphtheria (booster doses every 10 years), measles, meningococcal (if regional risk) and influenza.

However, the recommendations vary depending of the countries. In high income countries, recommended and/or mandatory vaccinations for social and healthcare workers include hepatitis B, BCG, diphtheria, tetanus, and polio, influenza, varicella, measles, pertussis and in some countries such as for Belgium pneumococcus [4–6]. In resources-limited settings, due to lack of financing, recommendations are sparse. Consequently, vaccination coverage varies according to countries and type of vaccines among healthcare workers. For example, hepatitis B vaccination coverage, exceeding 60% in high income countries, such as United States (64% in 2011), Italy (70% in 2011), Belgium (85% in 2004) and France (92% in 2009). This vaccination coverage is lower in low income countries, countries where the incidence of hepatitis B is higher, such as Burkina-Faso (10.9% in 2010), Nigeria (36.2% in 2012), Mexico (5.5% in 2010) [7–12]. Likewise, the reported vaccination coverage for influenza varies largely, in Europe, ranging from 3% in Slovakia, 15–16% in Germany and Italy, 40–50% in England and Netherlands, to 51% in Romania in 2009/2010. In 2008/2009 the influenza vaccine coverage in France was 26%. However 75% of the healthcare workers received influenza vaccine 2013/2014 in United-State [13–16].

Due to insufficient implementation of these recommendations, vaccine-preventable diseases such as measles, pertussis, influenza, still occur among healthcare workers and health-care facilities emerge as important areas for acquisition of measles infection [17–20], In fact, half of European countries haven't included yet measles vaccine in healthcare workers vaccination policies [21,22]. Likewise nosocomial transmission from health care workers to patients have been reported for hepatitis B, pertussis and influenza [21,23–27].

Data about Samusocial social and health care workers vaccination coverage are sparse or not available. The objectives of study were thus to determine the immunization coverage of social and healthcare Samusocial workers and to assess factors associated with having received the necessary doses at adulthood.

2. Population and methods

2.1. Study setting

The Samusocial is a non-governmental organization present in 14 countries, which provides emergency care for homeless people, especially children and adolescents, using specific methods combining medical, psychological social interventions for people living in situations of exclusion in the capitals of the world. These interventions include meeting, listening, counseling, accommodation, support and medical care. These interventions are given by social and health care workers who work either directly in the streets on the occasion of pilfering ("maraudes") or in health care day care or bed settings systems. The Samusocial methods lead social and health care workers to be regularly in contact to people living in poor hygiene condition, excluded from health services and potentially carrying chronic or acute of infectious diseases. At the time of the study, Brussels and Paris Samusocial used their national vaccination policy. For others Samusocial there was no specific policies, the national vaccination policy for heath care and social workers was not available. In this context, good vaccination coverage in this population would by a benefit for health public.

2.2. Design and source population

A cross-sectional survey was conducted among Samusocial workers, from February at April 2015 in ten Samusocial devices: Bamako (Mali), Brussels (Belgium), Bucharest (Romania), Casablanca (Morocco), Dakar (Senegal), Lima (Peru), Luanda (Angola), Ouagadougou (Burkina-Faso), and Pointe-Noire (Republic of Congo) [2] and in Samusocial de Paris (France). Only four sites did not agree to participate for logistical problems: Fort de France (Martinique), Cairo (Egypt), Moscow (Russia), Cayenne (Guyana). All employees were included, local volunteers, international solidarity volunteers, and trainees who had a contract with Samusocial at the time of the survey. Samusocial workers who did not sign written consent and who had a contract for less than one month were not included.

2.3. Data collection

All eligible and voluntary participants were interviewed using a standardized anonymous questionnaire. The questionnaire was developed on the basis of a literature review, WHO 2015 recommendations for healthcare workers for resources limited settings, and on Belgium and France healthcare workers immunization policies for high resources settings [4–6]. A pilot-phase was carried out for clarity and length. Samusocial workers anonymously filled the questionnaire with the help of their vaccination cards if they were available.

The following background characteristics were recorded: age, professional category, type of employment, existence of a contract, hiring year, country of activities, having a vaccination recording document, contra-indication, chronic disease, health insurance and being contact with Samusocial beneficiaries. The opinions and attitudes about adult vaccination boosters also were recorded.

The following vaccinations recommended by WHO for health care workers were recorded: hepatitis B, poliomyelitis, diphtheria, measles, rubella, meningococcal influenza [4]. Yellow fever vaccinations were recorded for endemic countries. For Brussels and Paris, pertussis vaccine was added. Pneumococcal vaccine was added for Brussels. For all cities, tuberculosis vaccine added. For this vaccine there was no recommendation for HCWs, but vaccination may be considered for tuberculin-negative persons in unavoidable and close contact with cases of multidrug-resistant tuberculosis.

The number of doses received was recorded for each vaccine. The vaccination status was obtained for each vaccine taking into account to the number of doses reported by each participant and necessary doses required in corresponding national vaccination policy or WHO vaccination policy for health care workers. For Brussels and Paris, we used Belgium and French national vaccination policy [5,6] for heath care and social workers and for others Samusocial, we used WHO vaccination policy [4].

Completed questionnaires and signed consents were scanned and sent by each Samusocial management to Cochin Hospital in

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