

Trends in Vaccination Coverage among Children and Mothers Between 2006 and 2012 In Togo

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Introduction

We conducted this study within the framework of the national review of the Expanded Program on Immunization (EPI) in Togo, with the aim of estimating the vaccination coverage of 12 to 23 months-old children against 9 target diseases (tuberculosis, diphtheria, tetanus, whooping cough, poliomyelitis, hepatitis B, *Haemophilus influenzae* type b, measles and yellow fever) and that of mothers of less than 12-month-old children against tetanus.

It is an investigation which took place from November 26th, 2012 to December 3rd, 2012 according to a two-degree cluster sampling method (WHO (World Health Organization) method) 1991). It helped collect information on 4118 children whose ages range from 12 to 23 months coming from 40 sanitary districts of the country. The average age of the population was 17.6 months. The estimation of the coverage rate was made from the proportion of vaccinated children according to the data of the cards of vaccination (coverage by "card") or, in case of absence of vaccination card, from the history of vaccination confirmed by the vaccination registers of health centers (coverage by "register").

The study was conducted by a group of investigators who went house by house to collect data regarding the vaccination coverage of children and their mothers. 82 children were excluded over the initial 4200 children, because of their age which was comprised in the decided range of the study. So, the data were exploited on the remaining 4118 children and their mothers. 4118 is then the number of children seen in the houses who had their vaccination card and those whose names were found in the register in the clinic and who were vaccinated. The number of children who did not receive any vaccination at all was also 82 (2%).

Vaccines which were studied were: i) BCG (Bacillus Calmette-Guerin) vaccine (vaccine against Tuberculosis) administered at birth; ii) Pental Vaccine (Pentavalent vaccine against Diphtheria, Tetanus, Whooping cough, Hepatitis B, *Haemophilus influenzae* type b): first dose administered at six weeks of life; iii) Penta Vaccine 3 (Pentavalent vaccine against Diphtheria, Tetanus, Whooping cough, Hepatitis B, *Haemophilus influenzae* type b): the third dose administered at 14 weeks of life; iv) VAR vaccine (anti-measles vaccine): administered at 9 months of life; v) VAA vaccine (anti-malarial vaccine (against the yellow fever)):

administered at 9 months of life; vi) VAT2 Vaccine (tetanus vaccine): second dose for pregnant woman, one month after VAT1 administered during the first prenatal consultation in the first quarter.

The gross vaccination coverages obtained are generally satisfactory whatever the vaccine with respectively 97% for the BCG, 93% for the Penta1, 84% for the Penta3, 72% for the VAR, and 72% for the VAA in the children from 12-23 months old. The card of vaccination was found in 79% of the children having received at least a dose of vaccine.

All in all, 70% of the children were completely vaccinated according to the register and 52% according to the card. Among the women who gave birth to a child during the last 12 months, more than 90% had a contact with the services of vaccination. Thus, the coverage rates are respectively 90% for VAT1, and 78% for VAT2, implying specific vaccination coverage rates lower than 80%, which is the expected minimum rate.

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Between 2006 and 2012 [1,2] the rates of vaccination coverage increased, going from 92% to 97% for the BCG, from 76% to 84% for Penta 3, from 64% to 72% for the VAR, from 53% to 72% for the VAA, and from 35% to 70% for the proportion of completely vaccinated children. Besides, the proportion of 0 dose child decreased between 2006 and 2012, from 7% to 2%. At the same time, we notice a reduction in the incidence and in the deaths related to these 9 diseases of the EPI [3].

These coverage rates in Togo are comparable to those found in other countries of Africa particularly in Chad [4], in Benin [5] and in Côte d'Ivoire [6]. The main reasons given by mothers as causes of non-vaccination or of incomplete vaccination of the children were their lack of motivation combined with carelessness (97%), non-availability on their part (32%), their lack of information (27%), the financial (16%) or geographical (14%) inaccessibility. Finally, the academic level of the mothers does not seem to have influenced their attitude toward the adhesion to vaccination.

Unlike the results of most of the previous studies conducted in Togo which showed the impact of the academic level of mothers on the vaccination coverage rate of their children, our result

in this study showed the opposite because of two strategies implemented in the country for about five years before the study period: (i) the active involvement of vaccination private centres by providing them with logistic means and which in return send their data to the regional structures of data centralization; those private centres were not involved in the management of vaccines and were not sending their data to the structures of data centralization. Now that they send the data, the issue is solved. (ii) the active involvement of women, mothers of children gathered in an association called "club of mothers" in three regions of the country which are involved in the sensitization and motivation of peers. They go around in the communities, house by house, doing it.

The more active implication of the private and denominational structures of health in the vaccination with a logistic backup and that of the women, mothers of children gathered in associations created for five years, called "club of mothers" in the awareness raising and the motivation of their peers in 3 of 6 sanitary regions probably contributed to this improvement of the vaccination coverage rates in Togo between 2006 and 2012.

References

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