Short Communication

The role of local primary healthcare units in increasing immunization uptake among children in vulnerable social groups through vaccination campaigns

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ABSTRACT

The objective of this study was to evaluate the potential of a tailored health promotion and vaccination campaign conducted by a Local Primary Health Care Unit (LPHCU), in increasing children’s immunization uptake of vulnerable social groups. The LPHCU of Ampelokipi, Larissa, Greece conducted an immunization campaign in accordance with the National Vaccination Program within a Roma settlement of Larissa, a population of approximately 4500 people, including 1500 children aged 2 months to 16 years. To ensure community engagement, the settlement’s Roma mediator and the associated Medical Social Centre participated in the design and implementation of the campaign, facilitating coherent and precise communications about the campaign goals and methods. The campaign consisted of peer-to-peer communications with parents/guardians, followed by medical examination and vaccination of children, as well as scheduling of appointments for monitoring children’s development. The communication messages presented vaccines as a health solution to parents and advised about personal hygiene and healthy diet habits. House-to-house health promotion visits were conducted to all houses of the settlement. From April 2019 to March 2020, a total of 704 vaccines were administered to 381 Roma children, conforming to the National Vaccination Programme of Greece. Our study demonstrated that LPHCU’s have the potential to enhance confidence between healthcare providers and vulnerable social groups, towards disease prevention and to increase immunization uptake. Vaccination campaigns should be organized systematically at central country level, as part of continuing efforts of health promotion programs. Local health care providers can play a significant role in national campaigns for increasing vaccination coverage among vulnerable groups.

1. Background

In 2017 the Greek government inaugurated Local Primary Health Care Units (LPHCU), which are key elements of the newly designed primary health care system and constitute the first point of contact for people in the area. Nearly 127 LPHCU have been established throughout several Greek regions, with four of them in the municipality of Larissa. These LPHCU consist of multidisciplinary teams (general practitioners, pediatricians, nurses, health visitors and social workers) providing primary health care services for people in a continuous manner, looking at disease prevention, health promotion, diagnosis, monitoring and treatment \cite{Ref1}.

As the largest ethnic group within Europe, estimates of the Roma population in Greece range from 120,000 to 300,000 \cite{Ref2}. The four specific regions of Greece where Roma live in higher concentrations are Eastern Macedonia- Thrace, Thessaly (location of the Larissa settlement), Western Greece and Central Macedonia \cite{Ref3}. Generally, the vast majority of Roma are marginalized and live on the outskirts of inhabited areas, with the exception of a small portion who are integrated into Greek society \cite{Ref3}. In particular, vaccination coverage studies of Roma children

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have consistently demonstrated low immunization rates \[4,5\]. Perceived barriers to vaccination appear to include inadequate education, financial reasons, access difficulties and family issues. In Greece, most Roma children are vaccinated in Health Centers which provide primary care mainly in rural areas, hospital outpatient clinics, and Medical-Social Centers. The latter began operating close to Roma settlements in 2006, in order to support the social integration of Roma, assist them with legal issues and contact with public authorities, detect health and social problems, inform about health issues and access to health services \[3\]. It has been shown that more children started vaccination when provided by Medical-Social Centers close to their place of residence, but fewer children continued to receive extended vaccination \[1\].

2. Implementation of immunization campaign

In accordance with the National Vaccination Programme (NVP) of Greece, the 4th LPHCU of Ampelokipi Larissa initiated an immunization campaign on Roma children living permanently in a community settled in the area of Nea Smyrni (northeastern district of Larissa), with the objectives to: a) inform parents/guardians of the benefits of vaccination, b) inform about the vaccination administration timing, c) enhance links among social and health care service providers and vulnerable populations, d) increase immunization uptake, e) promote personal hygiene and healthy diet.

In February 2019, the design of the campaign began with the participation of the LPHCU Medical – Social Centre of Nea Smyrni, as well as the Roma mediator of the settlement. The Target audience was defined, messages of the campaign were formulated, and the plan for immunization action was developed covering vaccines according to the NVP. Participants from both authorities and the Roma population were trained in implementing the campaign plan.

A vast majority of the Roma population in the area were informed through house-to-house visits; the estimated population of Roma in this area is approximately 4500 people including nearly 1500 children aged 2 months–16 years (according to unofficial records from the Medical-Social Centre). Using simple language, parents/guardians were informed about the preventable infectious diseases and risks associated with their children being vaccinated versus unvaccinated. Furthermore, parents/guardians were offered advice on personal hygiene and healthy diet habits.

Medical examination and vaccine delivery were provided inside the settlement’s primary healthcare facility. Firstly, each child was given a proper weight and height measurement, followed by completion of growth curves and a thorough physical examination. Information on vaccination status was collected from the Child Health Booklets (CHB), which were presented by all Roma children and inspected by the team’s trained health professionals. Subsequently, they were given a recipe with the appropriate vaccine which was provided free of charge - as it is to all children in the country - by the neighborhood’s pharmacies. Vaccines were administered to Roma children by LPHCU’s health workers and recorded in the CHB. Finally, parents/guardians were informed about the next appointment for immunization and the date was noted in the front page of the CHB. Consent for vaccinating children was provided in accordance to the NVP.

Each Wednesday from April to June 2019 and September 2019 to March 2020, Roma children from Nea Smyrni that presented with their parents/guardians to the settlement’s medical facility (aged 2 months–16 years [2 months – 2 years: 20.7%, 3–6 years: 36.8%, 7–12 years: 35.2%, 13–16 years: 7.3%]) were immunized according to the NVP.

The 4th LPHCU of Ampelokipi Larissa administered 704 vaccines to 381 Roma children from Nea Smyrni (including 183 males and 198 females) between April 2019 to March 2020. In accordance with the NVP of Greece, Roma children were immunized against Hepatitis B (HepB), Diphtheria – Tetanus- Pertussis (DTaP, TdaP vaccines), Poliomyelitis (IPV) – Haemophilus influenza type b (Hib), Streptococcus pneumoniae (conjugate PCV 13), Neisseria meningitides (MCC and Men ACWY vaccines), Measles – Mumps - Rubella (MMR), Varicella (VAR), Hepatitis A (HepA), as well as Human Papillomavirus (9-valent HPV vaccine). Six Roma children had risk factors for influenza and received the appropriate vaccine. The vaccines administered are presented in Table 1.

3. Discussion

Vaccination coverage of the child population is a crucial health indicator, reflecting the level of public health services provided. Vaccination rates of Roma children are much lower than those of the majority of the child population in Greece, and are below corresponding estimates for Roma population of children in other European countries \[1\]. Our campaign indicated very low MMR uptake by Roma children, which is of particular public health concern taking into consideration the current measles outbreak in Europe.

The LPHCU’s team members managed to establish a trusting relationship with the campaign’s target group. Our campaign demonstrated that bringing primary health care services close to Roma settlements, establishing relationships of trust with health professionals, and continuity of care are all valued by Roma populations and contribute to vaccine uptake of their children.

National vaccination campaigns are needed, which will be coordinated at a central level, conducted in a systematic and continuous way and covering all settlements of Roma in the country. Such campaigns should assign tasks for routine vaccination and health promotion of vulnerable communities to the multi-disciplinary teams of LPHCU and other local actors. LPHCU can contribute to a continuing long term vaccination effort of Roma communities as part of a national strategy.

Ethical approval

Authors have received approval for publication of the statistical results of the campaign (non-personal data) from the supervisory authority, the 5th Regional Health Authority of Thessaly and Sterea, Greece. The intervention was conducted according to the National Vaccination Programme.

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Declaration of competing interest

None declared.

Table 1

| Abbreviations of vaccines | Number of administered vaccines |
|--------------------------|-------------------------------|
| HepB                     | 47                            |
| HBV- DTaP – IPV - Hib    | 52                            |
| DTaP- IPV – Hib          | 31                            |
| DTaP – IPV/TdaP - IPV    | 124                           |
| PCV 13                   | 66                            |
| MMR                      | 153                           |
| VAR                      | 57                            |
| MCC/ MEN4                | 58                            |
| HepA                     | 102                           |
| HPV                      | 8                             |
| INFLUENZA                | 6                             |
| TOTAL                    | 704                           |
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