

## Vaccination Knowledge and Attitudes of Albanian Mothers

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### Abstract

This study evaluates the knowledge and attitudes of mothers regarding the immunization in a random sample of 100 children from Tirana, Durrës, Pogradec and Korçë, Albania. The questionnaire collected data on person answering the questionnaire, parent's educational and occupational status, parental knowledge on vaccines and vaccination and type of vaccine administration. The questions about attitudes on the utility of vaccinations were scored on a 5-point Likert scale with options ranging from "1" to "5". The behavior responses and the questions concerning mothers' responsibility on taking decisions regarding vaccination were in "yes/no" format and only two questions were open ones. Almost all the children were vaccinated with all the three doses of DTP and hepatitis B. In the meantime, for the optional vaccines, such as Influenza, HPV, only 2% of respondents stated that their children had been vaccinated. The results showed that the attitudes toward the utility of vaccinations for preventing infectious diseases were favorable. Most of the respondents felt extremely confident in receiving honest and complete information about vaccination from doctors/ pediatricians but also from the experience of other parents. The objective of this study was to investigate the influence of parental knowledge of vaccines and vaccination in Albania.

**Keywords:** Attitudes, knowledge, questionnaire, vaccination, influence

### Introduction

As Harris (2013, p.1056) states, the use of vaccines has significantly improved global public health, preventing hospitalizations and death of millions of children every year. World Health Organization (WHO) launched the Expanded Program of Immunization (EPI, Expanded Program on Immunization) in 1974, and, since then, the increase in the vaccination coverage has been associated with a significant reduction in morbidity and mortality for the diseases preventable by vaccines, bringing some of them to the nearest possible limits of elimination. The practice of vaccination is known as one of the highest efficient interferences in preventing the spread of infectious diseases. The vaccination applied on large-scale and in accordance with the appropriate strategies can lead not only to control but also to the elimination of special diseases (WHO, 2013). In the recent years a trend toward the use of combined vaccines is noticed with the purpose of increasing the practicality of application and minimizing logistical problems. As Nelaj (2013, p. 100) writes, during the years 1970s and 1980s, IPH (Institute of Public Health) in Albania, achieved remarkable improvements in the biotechnology of the components production of D (diphtheria), T (tetanus) and P (pertusis) for the trivalent vaccine DTP, vaccine DT and the Td one, which together with vaccine TT, consequently led to the increasing of their effectiveness and efficiency, being reflected in a further reduction of the disease occurrence.

In the year 2000, Rubella component (vaccine FR) was added to Measles vaccine, and in the year 2005, another component, that of Mumps (now FRP vaccine) was added to it; and in the year 2009 Hib component (Haemophilus influenza type b) was added to then separate vaccines DTP and HepB, thus avoiding an injection to children and enabling them to receive at one time five combined vaccine antigens DTP-HepB-Hib.

Though significant epidemiological results are achieved due to the efficacy of vaccines combinations, immunologists and microbiologists are still debating on the full equality of the immune response to the special antigens compared with those combined (M&B 7 1998, p.461-463). Despite the potential for protection against a broad spectrum of pathogens, the increasing availability of the effective vaccines can lead to a significant reduction of vaccine coverage as a result of problems related to the applicability of new vaccines according to the existing protocols. To overcome these problems, the development of combined vaccines is promoted. Their use offers benefits such as, reduction in the number of patient visits, reduced complications associated with multiple intramuscular injections, reduces in cost and administration of special vaccines, and decrease in the risk of delayed or lost vaccine. Hexavalent vaccine includes antigens against diphtheria, tetanus, acellular pertussis (DTP), hepatitis B (HBsAg), polio (P1, P2, P3) and Haemophilus influenzae type B (Hib).

## Materials and Methods

This study was an attempt to evaluate knowledge and attitudes of mothers regarding the immunization in a random sample of 100 children from Tirana, Durrës, Pogradec and Korçë, Albania. The questionnaire collected data on: person answering the questionnaire, parent's educational and occupational status, parental knowledge of vaccines and vaccination and type of vaccine administration. The questions about attitudes on the utility of vaccinations were scored on a 5-point Likert scale with options ranging from "1" to "5". The behavior responses and the questions concerning mothers' responsibility on taking decisions regarding vaccination were in "yes/no" format and only two questions were open ones.

## Results

Mothers' demographic and socio-economic features were included in the questionnaire, such as mother's marital status, mother's education level, age of the mother when she gave birth to the study child etc. These data are presented in Table 1.

Table 1. Mothers' characteristics

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Mothers' characteristics (n=100)	Number
<b>Mothers' age (years)</b>	
≤ 25	2
26 – 30	15
31 – 35	23
36 - 40	37
> 40	23
<b>Mothers' status</b>	
Single or divorced	3
Married	97
<b>Mothers' education</b>	
≤ 8 years	4
High school	6
University	90
<b>Mothers' aged at child birth</b>	
≤ 25	26
26 - 30	56
31- 35	17
36-40	1

Source: Author

The average age of these 100 mothers was 25 years, almost all were married (97 mothers) and had received University education. 56% of the interviewed mothers had given birth to the first child between the ages 26- 30.

Almost all the mothers questioned were responsible for the well-being of their child, including the protection of them from illness caused by diseases that are vaccine-preventable. Also, they agreed in more than 86% that feeding and sleeping schedules are important to help keep children healthy as well as vaccination schedule does.

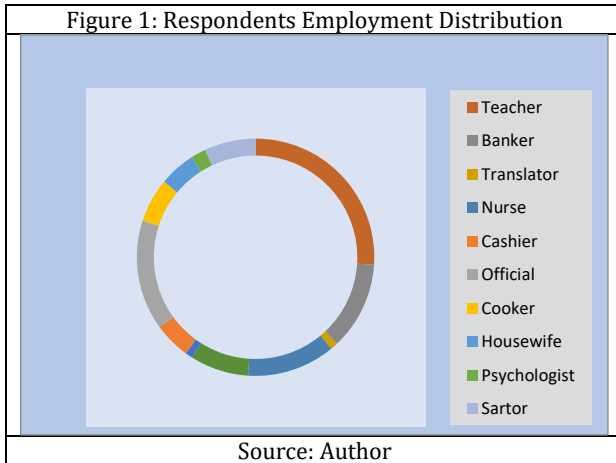


Figure 1 shows the distribution of questionnaires to respondents according to their employment. 26% reported to be self employment and 74% had professional full - time occupations (teacher, official (administrative worker), health worker etc.).

The results of this survey helped us to provide information about the knowledge, attitudes and behavior of the Albanian mothers regarding immunization. Since many factors may influence vaccination coverage, there are some important variables that should be taken into account, such as mothers' concern about vaccination which can be considered important information and in which the vaccination of infants depends.

The respondents were also asked if they had ever refused their child vaccination only for fear of the side effects and the result was that 6 parents out of 100 responded they had had this fear and consequently refused vaccination, going even further by specifying the type of vaccine they had avoided. While 92% of parents were of the opinion that information about the health benefits or risks of vaccines would be absolutely useful.

Table 2. Respondents' attitudes about vaccination

<b>Mothers' concerned about...</b>	<b>Somewhat concerned</b>	<b>Quite concerned</b>	<b>Totally concerned</b>	<b>I don't know</b>
<b>Concerned that your child may contract a vaccine-preventable disease and suffer a serious reaction to the disease.</b>	11	59	21	9
<b>Concerned that your child may experience a bad reaction to a childhood vaccine.</b>	6	17	72	5
<b>Concerned that your child could still contract a disease for which has been vaccinated.</b>	28	35	20	8

Source: Author

From Table 2, we can see that 72% of the subjects were totally concerned about the undesirable side-effect/ adverse event to a childhood vaccine. From the same table we noticed that 35% of the interviewed mothers were still concerned that their child would contract a disease even though he/she had been already vaccinated. For example, immunity provided by the pertussis (whooping cough) vaccine begins to wane after six to ten years, so if your child doesn't get a booster shot during his preteen years, he could contract the illness.

Table 3. Confidence in receiving correct information about vaccines from the sources in the list, ranked by level of confidence from 0 to 5 (5 point Likert scale)

Information sources	Level 1 (Not at all confident)	Level 2 (Quite confident)	Level 3 (Extremely Confident)	Level 4 (Don't know)
Vaccination child book	1	24	70	5
Parenting magazines	2	45	38	15
Public health nurse	0	33	65	2
Books/ Internet	8	68	14	10
TV/ Radio	13	62	16	9
Other parents	9	63	5	13
My doctor/ Pediatrician	0	18	82	0

Source: Author

## Discussion

The benefits of childhood vaccination are well established (*Andre, Booy, Bock, Clemens, Datta & John 2008*). Vaccine uptake rates in most industrialized countries are generally high. However, two broad parental factors are associated with under-vaccination. The first relates to socioeconomic disadvantage where, despite some motivation to have their children vaccinated, parents lack access to adequate resources and support to overcome logistical barriers such as a lack of transport or childcare (*Samad, Butler, Peckham & Bedford 2006*). The second factor, which also was the focus of this paper, relates to parents' concerns about the safety or necessity of vaccines (*Gust, Darling, Kennedy & Schwartz 2008*).

A critical factor shaping parental attitudes to vaccination is the parents' interactions with health professionals. An effective interaction can address the concerns of vaccine supportive parents and motivate a hesitant parent towards vaccine acceptance (*Brown, Kroll, Hudson, Ramsay, Green, Long, Vincent, Fraser & Sevdalis 2010*). Conversely, poor communication can contribute to rejection of vaccinations or dissatisfaction with care (*Thomas, Kohli & King 2004*). Such poor communication often results from a belief established by the health professional that vaccine refusal arises from ignorance which can simply be addressed by persuading or providing more information. Such an approach is counter-productive because it fails to account for the complexity of reasons underpinning vaccine refusal and may even result in a backfire effect (*Jackson, Cheater & Reid 2008*). Parental vaccination decisions are based on an array of factors and parents integrate information according to their experiential and social contexts (*Poltorak, Leach, Fairhead & Cassell 2005*). A parent's trust in the source of information may be more important than what is in the information (*Kempe, Daley, McCauley, Crane, Suh, Kennedy, Basket, Stokley, Dong & Babbel 2011*).

Health professionals have a central role in maintaining public trust in vaccination; this includes addressing parents' vaccine concerns (*Betsch, Brewer, Brocard, Davies, Gaissmaier, Haase, Leask, Renkewitz, Renner & Reyna 2012*). These concerns will likely increase as vaccination schedules inevitably become more complex, and parents have increased access to varied information through the internet and social media.

Table 3, according to confidence levels in different information sources, revealed that 82% of the respondents extremely trusted in health professional figures such as pediatricians and family doctors and 30% in the mass media.

When asked to list their most important sources of information on vaccines, the most common response was a child's doctor or nurse.

## Conclusion

The majority of the parents was either confident or very confident in vaccine safety and believed that vaccines are important to children's health. Similarly, they somewhat or strongly agreed that the benefits of vaccines outweighed the risks.

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