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The National Vaccination Programme in Greece: Factors Affecting Parents' Knowledge

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Abstract

The National Vaccination Programme (NVP) is an exceptionally effective intervention in the field of public health, aiming at eliminating mortality caused by diseases for which there are available vaccines.Background: The study aims at recording the factors that determine parents' level of knowledge about vaccines and their attitudes in Greece.Methods: A total of 2995 parents were asked to fill in a specially structured questionnaire. The study was conducted in 107 Athens kindergartens.Results: 58.8

Index terms— vaccines, national vaccination programme, parents? knowledge, kindergartens

assive vaccination programmes have contributed to the reduction or even elimination of severe diseases of the previous centuries and their active immunization is recorded as one of the greatest achievements of the 20 th century. **??**1][2][3] This reduction, however, in the occurrence of infectious diseases, due to vaccines, has resulted in ignorance of those diseases' severity in part of the younger parents. 3 Ignorance combined with inadequate advertisement by the media as it regards the vaccines' safety, and the significant increase in the number of mandatory for infants and children vaccines have led to parents' questioning both the necessity and safety of vaccines. **??**1][2][3] The current study aims at recording the factors that influence parents' knowledge level concerning vaccination as well as their attitudes and aspects concerning the significance of vaccination during childhood. It also aims at recording the percentage of non-vaccinated children, investigating parents' knowledge level of NVP in Greece, and showing the level of their agreement with its general implementation. In fact, the study reveals the level of parental awareness, demonstrates the significance of parental education when performing an in-school educational intervention and highlights the responsibility of the health professionals in informing parents about the importance of the vaccination. Despite paediatric consensus in statements and recommendations regarding the importance of vaccination, health professionals in Greece often neglect to inform parents, whereas parents ascribe to lack of valid and timely information the fact that they have not taken any action in that direction. 3 a) Participants and procedure A cross-sectional, descriptive, 12-month study was carried out at 107 kindergartens of Athens and one kindergarten at a Hospital of Athens that was selected by draw. The choice of Municipalities was made using this method in order to ensure that the sample included parents from different socio-cultural background. The study began on September, 2009 and ended on July, 2010. A total of 2995 parents answered a specially structured anonymous questionnaire (one questionnaire for each child) concerning previous vaccinations of their children and their knowledge about the importance of vaccination during childhood. The respond rate was 36 %. In particular, 1077 questionnaires were filled in, and 1044 were used. 33 questionnaires were answered by parents that did not have children at pre-school age. A sample of 1044 parents was divided in two groups in order to investigate the factors defining parents' knowledge level on NVP. In particular, it was divided in those with a satisfactory knowledge level (knowledge level ?50%) and those with a non-satisfactory knowledge level (knowledge level <50%). The independent variables assessed were: child's gender and age, parents' age, educational level, professional status, nationality, religion, and questions concerning parents' views and the previous vaccinations of their children. Specifically, the study examined the child's age, the frequency of vaccinations and the place where vaccinations were administered before the study. The study demonstrated the reasons why infants and children had not been vaccinated before. In addition, questions related

to the vaccination establishment in kindergartens were also included. Parents' knowledge and views were assessed diseases that can be eliminated via vaccination, the importance of vaccination screening during childhood and the necessity of being consistent with NVP. All children's parents gave informed consent. The study protocol and the including questionnaire were approved by the Scientific Committee of the Department of Nursing of the National and Kapodistrian University of Athens and by the Directorates of five Municipalities of Athens.

1 b) Pilot Study

A pilot study was deemed necessary in order to verify the validity and reliability of the questionnaire. To control the conceptual validity, the questionnaire was given to competent researchers of the field in order to be evaluated. Its content was found to be coherent, precise, complete and clear. The difficulty level of the questionnaire that assesses parents' knowledge concerning NVP and vaccines was initially identified. The pilot study concerning knowledge had a difficulty average of 56.6% and acceptance criterion was higher than 10%. In order to assess the questionnaire's discriminating capacity, the discrimination index of each question was assessed at 0.65 and the acceptable value was above 0.20. 4 A reliability analysis of the questionnaire was held and the internal reliability index Kuder-Richardson 20 (KR 20) was assessed. KR 20 values ranged from 0 to 1 and values higher than 0.7 are generally acceptable. 5 KR 20 reliability index for the entire questionnaire during the pilot study was found to be 0.855.

2 c) Statistical Analysis

A "knowledge" score was established in order to investigate parents' knowledge level as regards NVP. Every correct answer was rated with 1, every wrong answer or non-answer with 0 and the percentage of correct answers was assessed against the total number of the questionnaire's questions. The range of the score was 0 (minimum) to 100 degrees (maximum). For the description of constant variables, mean values, medians and standard deviations were used and value range as well. Comparisons of quantity variables were done using the non-parametric Mann-Whitney Test as normality assumption was not met according to the Kolmogorov-Smirnov and Shapiro-Wilk Test. For the comparison of proportions, chi-square and Fisher's exact tests were used. Adjusted odds ratios (OR) with 95% confidence intervals (95% CI) were computed from the results of the logistic regression analyses. Statistical significance was set at 0.05 and analyses were conducted using SPSS statistical software (version 18.0).

A sample of 1044 parents was divided in two groups in order to investigate the factors defining parents' knowledge level on NVP. In particular, it was divided in those with a satisfactory knowledge level (knowledge level higher or equal to 50%) and those with a nonsatisfactory knowledge level (knowledge level less than 50%). 58.8% of parents (614 out of 1044) showed a satisfactory knowledge level. The association of parents' knowledge level with children's demographics is shown in Table 1. Children's demographics (gender and age) don't affect parents' knowledge level while parents' age affects their knowledge level as it regards NVP. Parents with a satisfactory knowledge level are of older age compared to parents with non-satisfactory knowledge level (Table 2) and the difference is statistically significant ($p<0.0001$ for the mothers and $p=0.003$ for the fathers). Parents of a higher educational level have a higher level of knowledge with respect to NVP ($p<0.0001$), (Table 3). The study showed that parents with a higher percentage of satisfactory knowledge are occupied in health professions (83.6%), followed by those in the teaching professions (75.8%) and civil servants (74.7%). The lowest percentage of satisfactory knowledge level is shown by workers (14.3%), working mothers (0%) and housewives (37.1%). Moreover, it has been found that parents' nationality ($p<0.0001$) and religion ($p<0.0001$) were associated with their level of knowledge. 2/3 of Greek parents have a satisfactory level of NVP knowledge, while only 1/4 of foreigners have a satisfactory knowledge level. ?s it regards religion, 62% (584/943) of the Christian orthodox population have a satisfactory knowledge level contrary to the Catholic population who have a satisfactory knowledge level of 28% (7/25) and the Muslims with a percentage of 12% (3/26). As far as it concerns the rest of religious denominations, it was observed that only 39% (13/33) have a satisfactory knowledge level as it regards vaccination and NVP. As it concerns the information sources and parents' knowledge level on vaccination and NVP, a statistically significant correlation has been observed as it regards the information received by parents with satisfactory knowledge level compared to those with non-satisfactory knowledge level (Table 4). The relation of the independent variables with parents' general level of knowledge concerning vaccination was further studied by applying logistic regression analysis. The estimated model is presented in Table 5. There is an indication of a positive relation between the total level of parents' knowledge on vaccination and mother's age. Specifically, the increase of mother's age by one year increases the relevant likelihood for parents to have a satisfactory knowledge level by 3.5%. Moreover, it was found a statistically significant positive relation between parents' level of knowledge on vaccines and mother's Greek nationality. The likelihood for the parents to have a satisfactory level of knowledge when the mother is Greek is higher than 47.9% compared to a foreign mother. On the contrary, a statistically significant negative relation is shown between the parents' total level of knowledge and the mother's engagement in household activities ($p=0.028$) or unemployment ($p=0.028$). Essentially, parents' likelihood of having a satisfactory knowledge level when the mother is occupied in household activities is 62.5% lower compared to the ones with a profession, whereas if unemployed this reaches 79.5% lower. Finally, there are indications showing a positive relation between the general level of parents' knowledge on vaccination and NVP and the information received by Paediatricians, General Practitioners, Media and the Internet or other agent.

Parents' likelihood of having a satisfactory level of knowledge when informed by Paediatricians is higher than 159.4% compared to the ones that do not get any information from Paediatricians. Parents' likelihood of having a satisfactory level of knowledge when informed by General Practitioners is higher than 212% compared to those that do not get any information from General Practitioners. The relevant likelihood of having a satisfactory level of knowledge when informed by the Media and the Internet is higher than 66.4% compared to the ones that do not have any information from the Media or the Internet. This study showed that NVP is implemented (Charts 1-3). Nevertheless, it seems that some parents' concerns have begun, particularly with regard to new vaccines. Especially for the human papillomavirus vaccine (HPV) that has recently joined the National Immunization Programme, the study found that parents are skeptical in a high percentage about its safety and effectiveness.

Vaccination constitutes an important means of protection against infectious diseases. 6 What vaccines can achieve is to protect both the vaccinated person and the community. [6][7] A first reference to vaccines was made in the 18th century, as Jenner introduced the vaccine against smallpox. 8 At that time, scientists could not foresee that 180 years later this disease would have been eliminated. [6][7][8] Later on, in 1885, Pasteur attempted a successful anti-rabies vaccination using a vaccine made of dried rabbit spinal marrow, with the rabbits having been firstly contaminated with the rabies virus. 9 In 1923, Ramon discovered Diphtheria Toxoid and in 1927 the Tetanus Toxoid. 9,10 The first vaccinations, by Jenner and Pasteur, were administered without knowing the immunizing mechanisms involved in vaccination, a knowledge which is essential since it helps health professionals to use vaccines properly, achieving the best immunizing response. 11 Biotechnological development allowed the discovery and production of new vaccines that now have limited side-effects and high efficiency levels. 6,12, **??**3 As an example of the optimized vaccines, the acellular pertussis vaccine (DTaP), the smallpox vaccine, and a vaccine against human papillomavirus (HPV) are mentioned. [14][15][16] Studies showed that parents are concerned about the vaccines' correlation with side-effects, such as autism, multiple sclerosis, peripheral polyneuropathy and allergies. 3,17 In particular, MMR (measles, mumps, and rubella) vaccine's correlation with the appearance of autism has been a serious concern for a number of years, although there are no indications to justify such a correlation. 17 The first correlations of ??R vaccine with autism were expressed about 12 years ago by A. Wakefield et al. 3,17,18 Their study was considered insufficient due to the small sample and the fact that it was based on parents' reports. Nevertheless, it was observed a significant reduction of vaccination. 2,3,17 Ever since, a number of studies have been conducted, which do not correlate vaccines with the occurrence of autism, while distinguished international organizations, such as Centers for Disease Control (CDC) and the National Health Service (NHS), have supported the use of the vaccines. 3,19,20 It has been shown that many factors influence, either positively or negatively, parents' opinion about vaccination. Knowledge and timely information constitute the most important factors that positively affect the attitudes of parents as it regards vaccines and NVP, while appeasing their concerns, so that the NVP be followed by everyone. In 2005, Paulussen et al. conducted a similar study aiming at recording the fundamental factors based on parents vaccinating their children in the respective NVPs. 21 By the current study it was found that parents wish their children to be vaccinated, believing that vaccination offers them a proper and safe immunization, hence protection, against severe diseases. However, parents' concern was that their children had to get too many vaccines simultaneously. Parents stated that the information they received by Paediatricians might not have been objective and only when vaccination advantages were previously presented it might led them to the Paediatrician office. The researchers deem that parents must be fully informed by Paediatricians in order to prevent information received from non-trusted sources that may discredit vaccines. Downs et al. had mental model interviews with parents, discussing issues pertaining to their children's vaccination and found out that even parents that were initially in favour of their children being vaccinated, expressed some concerns as to whether they had made the right decision or not. 22 Detailed information seems to be helpful and to appease parents' concerns on vaccination issues. 22 Finally, a qualitative study was conducted by Rachel K et al., aiming at researching the decision-making process of the parents who choose not to vaccinate their children, showed that most of the parents considered that their decision is based on valid information, while an equally large number of them did not consider that health professionals provided valid information. 23 It is hence concluded that it is necessary for parents to have access to correct information on vaccines. 23 In 2009 an antivaccine climate was created in Greece by the outbreak of influenza. [24][25][26] Data from the Greek Pandemic Committee report that, by the misinformation carried out for three months, saying that the vaccine is dangerous or should not be administered to children, damage was unavoidable. By the outbreak of influenza, different views were presented in scientific field on the safety and K necessity of the vaccine until they finally decided that the vaccine is blameless. [24][25][26] The controversies and tensions that occurred resulted in the parents' concerns about the safety of all vaccines and the risks posed to the occurrence of side effects. Data from the Greek Pandemic Committee show a decreased consumption of vaccines in the quarter December 2009 to February 2010, which indicates that parents have lost their trust in vaccines. 24 This study showed that NVP is implemented, but, nevertheless, it seems that some parents' concerns have begun, particularly with regard to new vaccines. [27][28][29] Especially for the human papillomavirus vaccine (HPV) that has recently joined the National Immunization Programme, the study found that parents are skeptical in a high percentage about its safety and effectiveness. However, parents who had satisfactory knowledge level in matters concerning vaccines and are aware of HPV vaccine, would administer the vaccine to their children. In similar studies performed abroad on the acceptance of new vaccine in the mandatory vaccination of each country, it was found that parents, who were informed about the risks their children were running after infection with

HPV and the cervical cancer as well, accepted vaccination at higher rates. [27][28][29] Through recording and studying the factors that act on parents' opinion about vaccines it seems that knowledge and timely information positively affect parental attitude as it regards the implementation of the NVP. This is the role that scientific community and health professionals are obliged to assume, that is, to respect the concerns expressed by parents, deal with their questions and convince them on the necessity as well as on the safety of vaccines. Before the problem gets worse, it would be good to begin organized programmes of parents' information, either through the primary centers for counseling young parents, or in kindergartens through scheduled meetings and parents' information by health professionals. Health professionals need to be constantly updated on new developments in the vaccine field and convince skeptical parents with scientific criteria for the necessity of vaccinations, stating in any case that the unvaccinated children are at increased risk of developing serious diseases with incalculable consequences for their health.

3 a) Limitations

The study had several limitations. The main limitation was that the dispensation of the matter to conduct the study was based on researchers' disposition in each kindergarten to distribute questionnaires diligently. Another limitation was the lack of uniformity of the sample as far as nationality is concerned. Probably some parents did not answer the questionnaire because they could not understand the questions (foreigners), affecting the sample in this way. Nevertheless, this epidemiological study aimed at finding out whether the NVP is implemented as it concerns the residing paediatric population in Greece or not, and recognising the significance of educating the parents about the NVP implementation.

NVP and promoting awareness constitute important means of protection against infectious diseases. 6 What vaccines can achieve is to protect both the vaccinated person and the community. [6][7] When comparing knowledge level of parents who agree and those who disagree with the observance of National Immunization Programme, it was found that most of those who agree (60%) have a satisfactory knowledge level, as opposed to those who disagree. It was found that parents who have followed and completed the National Immunization Programme have a satisfactory knowledge level (p = 0,004) compared with those who have not completed this programme. A 96.1% of the parents' state that they keep abreast of new developments in vaccines by Paediatricians, while a second important source of information are the Media and the Internet (33.6%). It was shown that the majority of parents (81.7%) are skeptical as to the safety and effectiveness of new vaccines, such as the vaccine against HPV and Rota. The parents' intention to vaccinate their children with new vaccines depends on whether they know or not the side effects of these vaccines, e.g. for HPV, Rota (p = 0.001). Even though the NVP is mandatory, some parents question both the necessity and the safety of vaccines, which furthermore endangers a child's life. In-school education seems to be of vital importance in the parents' compliance with NVP. However, more studies are needed to ensure that there is evidence of the incorporation of the recommendations concerning the importance of NVP during childhood. It is essential to inform parents with respect to the significance of vaccination, and the consequences of their ignorance. It is also necessary that medical personnel should take action with respect to its implementation and thus contribute to public awareness. Health professionals are a catalyst for community awareness, screening and prevention with respect to elimination of infectious diseases. [1] [2] [3]

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[3] KThe National Vaccination Programme in Greece: Factors Affecting Parents' Knowledge

Figure 1:

1

	General level of parental knowledge		
	Non-satisfactory	Satisfactory	p-value
Child's gender	N (%)	N (%)	
Male	206 (40.1)	308 (59.9)	0,658 a
Female	216 (41.5)	304 (58.5)	
Child's age (months)			
Average±Standard deviation	46 ± 12	45 ± 11	
Median (Range)	48 (14 -84)	48 (4 -72)	0,240 b

a Fisher's Exact Test
b Mann-Whitney Test

Figure 2: Table 1 :

2

Parents' age	General level of parental knowledge Non-satisfactory	Satisfactory	p-value b
Mother's age (years)			
Average±SD	35 ± 5	36 ± 4	
Median (Range)	35 (22 -53)	36 (22 -52)	<0,0001
Father's age (years)			
Average±SD	39 ± 6	40 ± 6	
Median (Range)	38 (26 -79)	39 (24 -73)	0,003
b Mann-Whitney Test			

Figure 3: Table 2 :

3

Parental educational level	General level of parental knowledge Non-satisfactory	Satisfactory	p-value c
Mother's education	N (%)	N (%)	
Grammar School	3 (75)	1 (25)	
Primary School	12 (70.6)	5 (29.4)	
Primary Junior High School	10 (62.5)	6 (37.5)	
Junior High School	49 (68.1)	23 (31.9)	
Vocational, Technical School	50 (56.8)	38 (43.2)	
Senior High-School	9 (75)	3 (25)	
High-School	149 (42.3)	203 (57.7)	<0,0001
Higher Technical Educational Institute	39 (26.2)	110 (73.8)	
University	72 (33.6)	142 (66.4)	
Post-graduate studies	25 (24.3)	78 (75.7)	
Father's education	N (%)	N (%)	
Grammar School	1 (25)	3 (75)	
Primary School	8 (66.7)	4 (33.3)	
Primary Junior High School	15 (65.2)	8 (34.8)	
Junior High School	24 (41.4)	34 (58.6)	
Vocational, Technical School	48 (47.5)	53 (52.5)	
Senior High-School	18 (75)	6 (25)	
High-School	160 (43.5)	208 (56.5)	
Higher Technical Educational Institute	51 (37)	87 (63)	<0,0001
University	58 (32.2)	122 (67.8)	
Post-graduate studies	22 (22.2)	77 (77.8)	

Figure 4: Table 3 :

4

		General level of parental knowledge		
		Non-satisfactory	Satisfactory	
Information sources		N (%)	N (%)	p-value a
Paediatrician	No	26 (6.1)	15 (2.4)	0,005
	Yes	403 (93.9)	599 (97.6)	
General Practitioner	No	418 (97.4)	552 (89.9)	<0,001
	Yes	11 (2.6)	62 (10.1)	
School	No	406 (94.6)	571 (93)	0,304
	Yes	23 (5.4)	43 (7)	
Media , Internet	No	327 (76.2)	366 (59.6)	<0,001
	Yes	102 (23.8)	248 (40.4)	
Family	No	403 (93.9)	577 (94)	1,000
	Yes	26 (6.1)	37 (6)	
Other	No	421 (98.1)	569 (92.7)	<0,001
	Yes	8 (1.9)	45 (7.3)	

a Fisher's Exact Test

Figure 5: Table 4 :

5

	B	(OR) e B		95% CI for e B	p-value
Mother's age (years)	0.035	1.035	1.001	1.071	0.045
Parents' education					0.043
Grammar School	0.132	1.141	0.099	13.096	0.916
Primary School	-0.701	0.496	0.107	2.304	0.371
Primary Junior High School	-1.359	0.257	0.082	0.804	0.020
Junior High School	0.238	1.269	0.546	2.948	0.580
Vocational, technical school	-0.783	0.457	0.229	0.913	0.027
Senior High School	-1.499	0.223	0.070	0.717	0.012
Mother's Nationality (Greek)	1.479	4.390	2.793	6.901	0.000
Mother's professional status					0.002
Civil Servant	-0.181	0.834	0.385	1.810	0.647
Private Employee	-0.637	0.529	0.263	1.063	0.074
Teacher, Professor	0.003	1.003	0.430	2.337	0.995
Health professional	0.503	1.654	0.609	4.494	0.324
Housework	-0.980	0.375	0.157	0.899	0.028
Unemployed	-1.583	0.205	0.064	0.659	0.008
Information sources					
Paediatrician	0.953	2.594	1.076	6.256	0.034
General Practitioner	1.138	3.120	1.508	6.458	0.002
Media , Internet	0.509	1.664	1.204	2.300	0.002
Other	1.551	4.717	1.837	12.112	0.001

[Note: Yes: 99.23% No: 0.77% Pie chart 1 : Parent's compliance rate with the NVP Yes: 76.21% No: 23.79% Pie chart 2 : NVP's completion rate no yes no yes]

Figure 6: Table 5 :

[Mcinnes and Schett ()] , I B Mcinnes , G Schett . *Nat Rev Immunol* 2007. 7 (6) p. .

[Lombard and Pastoret ()] 'A brief history of vaccines and vaccination'. M Lombard , P.-P Pastoret , Moulin A.-M . *Rev. sci. tech. off. int. Epiz* 2007. 26 (1) p. .

[Plotkin and Plotkin (ed.) ()] *A short history of vaccination*, S L Plotkin , S A Plotkin . Plotkin SA, Orenstein WA, Offit PA (ed). Vaccines. 5th ed. PA Saunders (ed.) 2007. Philadelphia. p. .

[Advisory Commission on Childhood Vaccines (ACCV) (2010)] *Advisory Commission on Childhood Vaccines (ACCV)*, 2010 Jul [cited 2010 Oct 26.

[Rachel K Sporton and Francis ()] *Choosing not to immunize: are parents making informed decisions? Famile Practice*, Sally-Anne Rachel K Sporton , Francis . 2001. 18 p. .

[Nguyen et al. ()] 'Decline in Mortality Due to Varicella after Implementation of Varicella Vaccination in the United States'. H Q Nguyen , A O Jumaan , J F Seward . *N Engl J Med* 2005. 352 p. .

[Paulussen et al. ()] 'Determinants of Dutch parents' decisions to vaccinate their child'. T G Paulussen , F Hoekstra , C I Lanting , G B Buijs , R A Hirasing . *Vaccine* 2006. 24 p. .

[Wiersma and Jurs] *Educational measurement and testing*, W Wiersma , S G Jurs . Boston, MA: Allyn and Bacon1990. (2nd ed.)

[Dickman and Ferris ()] 'Human Papillomavirus Vaccine Acceptability among Parents of 10 to 15 year old Adolescents'. Davis K Dickman , G D Ferris , D . *J Low Genit Tract Dis* 2004. 8 (3) p. .

[Wakefield et al. ()] 'Ileallymfoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children'. A J Wakefield , S H Murch , A Anthony . *Lancet* 1998. 351 p. .

[Konstantopoulos ()] 'Immune response to vaccines'. A Konstantopoulos . *Vaccines. Athens Medical Society. Editions X. Kattamis, Athens* 1995. p. .

[Tsolia et al. (2006)] 'Impact of influenza infection in healthy children examined as outpatients and their families'. M N Tsolia , I Logotheti , N G Papadopoulos . *Vaccine* 2006 Aug 14. 2006 May 17. 24 p. .

[Rachiotis et al. (2010)] 'Low Acceptance of vaccination against 2009 Pandemic Influenza A (H1N1) Among Healthcare workers in Greece'. G Rachiotis , V A Mouchtouri , J Kremastinou , K Gourgoulianis , C Hadjichristodoulou . *Eurosurveillance* 11 February 2010. 15 (6) .

[MMR the facts, NHS Immunisation information] *MMR the facts, NHS Immunisation information*, http://www.mmrthefacts.nhs.uk/

[National Vaccination Committee. National Vaccination Program Pediatrics ()] 'National Vaccination Committee. National Vaccination Program'. *Pediatrics* 2006. 69 p. .

[Ferris et al. ()] 'Parental Acceptance of a Mandatory HPV Vaccination Progam'. D Ferris , L Horn , J L Waller . *JAm Board Fam Med* 2010. 23 (2) p. .

[Papaevangelou ()] *Parents' reserves and concerns on vaccination safety and necessity. Developments in Paediatric Diagnostics and Treatment*, V Papaevangelou . 2009. 29 p. . II Paediatric Clinic of Athens University

[Downs et al. ()] 'Parents' vaccination comprehension and decisions'. J S Downs , W Bruine De Bruin , B Fischhoff . *Vaccine* 2008. 26 p. .

[Lenselink et al. ()] 'Parrental acceptance of Human Papillomavirus Vaccines'. C H Lenselink , Mmj Gerritus , Wjg Melchers . *Eur J Obstet Gynecol Reprod Biol* 2008. 137 (1) p. .

[Koteli ()] 'Smallpox: a disease old as time'. ? Koteli . *History of Medicine. Medical News* 2006. 44 p. .

[Kuber and Richardson ()] 'The theory of the estimation of the test reliability'. G F Kuber , M W Richardson . *Psychometrica* 1937. 2 p. .

[US Department of Health and Human Services] *US Department of Health and Human Services*, (Internet)

[Nikolopoulos ()] *Vaccination in countries of the European Union. Konstantopoulos ? Vaccines in Greece. Editions of the Hellenic Paediatric Society*, D Nikolopoulos . 2000. Athens. p. .

[Measles] *Vaccine and Autism Fact Sheet*, Mumps Measles , Rubella . http://www.cdc.gov/od/science/iso/concerns/mmr_autism_factsheet.hm

[Kanariou ()] *Vaccine immunization, Progress in comprehending immune response. Konstantopoulos ?. Vaccines in Greece. Editions of Hellenic Paediatrics Society*, M Kanariou . 2000. Athens. p. .

[Konstantopoulos ()] 'Vaccine Scheduling -New vaccines'. A Konstantopoulos . *Clinical Paediatrics. Zeta Editions. Athens* 2006. p. .

[Stefano ()] 'Vaccines and autism: evidence does not support a casual association'. De Stefano , F . *Clin Pharmacol Ther* 2007. 82 p. .

[Vazquez and Shapiro ()] 'Varicella Vaccine and Infection with Varicella-Zoster Virus'. M Vazquez , E D Shapiro . *N Engl J Med* 2005. 352 p. .

3 A) LIMITATIONS

[Why health care workers are apriority group for pandemic influenza A (H1N1) vaccination?] *Why health care workers are apriority group for pandemic influenza A (H1N1) vaccination?*, http://ecdc.europa.eu/en/activities/sciadvice/Pages/Activities_ScientificAdvice.aspx (European Centre for Diseases Prevention and Control (ECDC). Internet)