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4th Congress-Day, September 18th, Sunday
Venue: University Bonn, Poppelsdorf, Nußallee 10

Plenary Lecture:
Dr. S. Srivastava, EDRN, NIH / NCI, USA

Lecture Hall A
9 am – 9:45 am

Specialised Session

Biomarker Discovery
Validation, Standardisation &
Practical Application in Medical Practice

Lecture Hall A

10:00 am - 1:00 pm

Chairmen: Prof. Dr. M. Ferrari, Centre for Genomics, Bioinformatics, and Biostatistics, San Raffaele Scientific Institute, Milan, Italy
Prof. Dr. J. Kzhyshkowska, Medical Faculty Mannheim, University of Heidelberg, Germany

Speakers:

- Prof. Dr. I. Gozes, Department of Human Molecular Genetics and Biochemistry, Sackler School of Medicine, Israel. **Preventive, Predictive, Personalized and Participatory Healthcare Impacted by Climate, Culture and Community in the Computerized World.**
- Prof. W. Lieb, Institute for Community Medicine, Ernst Moritz Arndt University Greifswald, Germany. **Approach to Individualized Medicine – (GANI_MED) – Standardisation of clinical data for research use.**
- Dr. Th. Joos, NMI Natural and Medical Sciences Institute at the University of Tübingen, Germany. **Immunoassays in multiplex for biomarker discovery and validation.**
- Dr. T. Waerner, Dr. K. Krapfenbauer, Boehringer-Ingelheim RCV GmbH & CoKG, Vienna, Austria. **The role of laboratory medicine in healthcare: Quality Requirements of immunoassays, standardisation and data management in prospective medicine.**

Short oral presentations:

- Dr. E. Moiseeva, Institute of Bioorganic Chemistry, Moscow, Russia. **The "4s" concept: How to augment the predictive value of preclinical research.**
- Dr. M. Pilugina, Krasnoyarsk State Medical University named after Prof. V.F .Vojno-Jasenetsky, Russia. **Role of Laboratory Testing of Polymorphic Allele Variants of Gene CYP2C9 of Isoenzyme 2C9 of Cytochrome P450 in Predictive, Preventive and Personalised Medicine on Epileptology.**
- Dr. P. Schulz-Knappe, Protagen AG, Dortmund, Germany. **Autoantibody Biomarkers for Prostate Cancer Detection.**
- Dr. J. Vrzalova, Immunoanalytic laboratory, Faculty Hospital and Faculty of Medicine in Pilsen, Charles University in Prague, Czech Republic. **Multiplex x MAP analysis – analytical tool for personalised medicine.**
- Dr. J. Walkenhorst, PROvendis, Germany. **Knowledge Transfer and Patenting Strategy in Predictive Medicine.**

Panel Discussion

Moderator: Dr. Ph. Jacon, Director General, European Diagnostic Manufacturers Association, EDMA

Panellists
Dr. G. Grech, Department of Pathology, University of Malta, Malta

Speakers

Poster Overview: Dr. K. Krapfenbauer, Boehringer-Ingelheim RCV GmbH, Austria

Posters related to the topic:

Systematic Development of Novel Antibody Biomarkers for Diagnostic Protein.
A. Lueking[1], A. Kowald[1], G. Bartsch[2], H. Klocker[2], H. Göhler[1], P. Amersdorfer[1], S. Muellner[1], P. Schulz-Knappe[1]
[1]Protagen AG, Dortmund, Germany; [2]Dept. of Urology, Innsbruck Medical University, Austria

Evaluation of the Immunization Strategy Implementation in the Republic of Macedonia for the period 2004 – 2009.
N. Kamchev[1], M. Zdravkovska[2], V. Ivanovska[1], G. Kamcheva[1]
[1]Faculty of Medical Sciences, University Goce Delcev, Stip, Republic of Macedonia; [2]Medical Faculty, University Ss. Cyril and Methodius, Skopje, Republic of Macedonia

Reproducibility of 3-Part Differential Hematology Analyzer Medonic CA620: a study after 3 years and 90 000 samples.
T. Ruskovska, N. Kamcev, G. Kamceva, N. Siljanovski
Faculty of Medical Sciences, University "Goce Delcev", Stip, Macedonia

Activity of Antiseptic Solutions in relation to their physicochemical properties.
B. Gjorgjeska, C. Dimova
Faculty of Medical Sciences, Krste Misirkov bb, POB 201, 2000 Stip, Republic of Macedonia

Level of unsaturation of fatty acids in biodiversal biomasses and extracts: rapid assessment with FT-IR.
T.A. Egorova-Zachernyuk[1], A.M.A. Pistorius[2], W. J. DeGrip[2]
[1]Protein Labelling Innovation (PLI), BioScience Park, Archimedesweg 27 2333 CM Leiden, The Netherlands; [2]Nijmegen Centre for Molecular Life Sciences (NCMLS), RUNMC, P.O. Box 9101, NL-6500 HB Nijmegen, The Netherlands

Measurement of isotope enrichment in stable-isotope labeled biomasses and extracts: rapid assessment with FT-IR.
T.A. Egorova-Zachernyuk[1], A.M.A. Pistorius[2], W. J. DeGrip[2]
[1]Protein Labelling Innovation (PLI), BioScience Park, Archimedesweg 27 2333 CM Leiden, The Netherlands; [2]Nijmegen Centre for Molecular Life Sciences (NCMLS), RUNMC, P.O. Box 9101, NL-6500 HB Nijmegen, The Netherlands

Cost-effective stable isotope labelling of drug targets and protein therapeuticals in insect and mammalian cell lines
T. A. Egorova-Zachernyuk[1], W. J. DeGrip[2]
[1]Protein Labelling Innovation (PLI), BioScience Park, Archimedesweg 27 2333 CM Leiden, The Netherlands; [2]Department of Biochemistry, NCML, Radboud University Medical Centre (RUNMC) P.O. Box 9101, NL-6500 HB Nijmegen, The Netherlands

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Evaluation of the Immunization Strategy Implementation in the Republic of Macedonia for the period 2004 - 2009

Kamchev N. [1], **Zdravkovska M.** [2], **Ivanovska V.** [1], **Kamcheva G.** [1], **Richter K.** [3]

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[3]- Klinik für Psychiatrie und Psychiatrie, Klinikum Nuernberg, Prof. Ernst-Nathan Str.1, 90419, Nuernberg, Germany

Introduction: The introduction of the vaccines as a protective measure against infectious diseases shows impressive results throughout the history of medicine. Several infectious diseases have been eliminated globally, while many others have been reduced to a negligible amount.

The mandatory immunization policy in the Republic of Macedonia has achieved high coverage rates. They are in line with the World Health Organization recommendations and other referent international institutions at levels ≥ 95%, with rare reductions for some vaccines below 95%, and even less occasionally below 90%.

Objectives: To evaluate the implementation of the immunization program in the Republic of Macedonia from 2004 to 2009, and to present the incidence and prevalence of vaccine-preventable diseases for the same period.

Methods and materials: We investigated the number of all registered vaccinated and re-vaccinated people from 2004 to 2009 consistent with the national mandatory immunization policy against certain infectious diseases. The study also included figures on people infected with vaccine-preventable diseases for the same period. Sources of data are the annual reports from the Institute of Public Health in R. Macedonia and the National Programme for Mandatory Immunization (Official Gazette of the Republic of Macedonia No.7/2011). This was a descriptive epidemiological study.

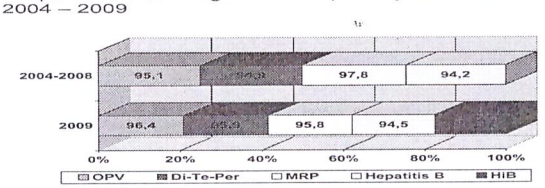
Results: The coverage rates for primary vaccination against several infectious diseases in 2009 were above 95%. The coverage rate of 96.4% for the three doses OPV vaccine in 2009 is higher than its average rate of 95.1% during the period 2004-2008. The coverage rate of 95.9% for the three doses DTP vaccine in 2009 is 1% higher than its average rate during the period 2004-2008. The coverage rate of 95.8% for one dose MMR in 2009 is lower than its average rate of 97.8% during the period 2004-2008. The coverage rates below 95% for these three vaccines were registered only in 2006.

The coverage rates below 95% for primary vaccination during the period 2004-2009 were registered for: Hepatitis B vaccine (94.2%), Haemophilus influenzae type b vaccine (81.5%) during 2008 and 2009, and for Human Papillomavirus vaccine which was initiated in November 2009.

Table 1. The coverage rates for primary vaccination 2004 – 2009

Vaccine type	2009 год.	Average for 2004 - 2008
OPV (3 dosis)	96,4%	95,1%
Di-Te-Per (3 dosis)	95,9%	94,9%
MMR (1 dosis)	95,8%	97,8%
Hepatitis B (3 dosis)	94,5%	94,2%
HiB (3 dosis)	81,5%	Introduced in 2008
HPV (3 dosis)	/	Introduced in 2009

Graph 1: The coverage rates for primary vaccination 2004 – 2009

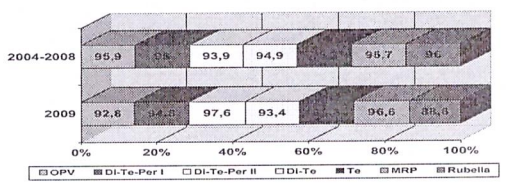


With the exception for MMR, all other re-vaccinations in 2009 are below 95%, but above 90%, which represent lower coverage rates compared with their average rates for the period 2004-2008.

Table 2. The coverage rates for re-vaccination 2004 – 2009

Vaccine type	2009	average 2004 - 2008
OPV	92,8%	95,9%
Di-Te-Per I	94,8%	96,0%
Di-Te-Per II	91,6%	93,9%
Di-Te	93,4%	94,9%
Te	93,8%	95,3%
MRP	96,6%	95,7%
Rubella	88,6%	96,0%

Graph 2. Coverage rates for re-vaccination 2004–2009

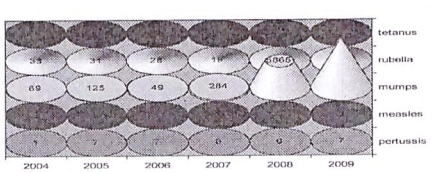


From 2004 to 2009, the prevalence of Pertussis was 1.08 per 100,000 inhabitants, Measles 2.45 per 100,000 inhabitants, Mumps 850.6 per 100,000 inhabitants (epidemic in 2008/2009), Rubella 6.68 per 100,000 inhabitants, and Tetanus 0.19 per 100,000 inhabitants.

Table 3. Distribution of patients with vaccine-preventable diseases in Republic of Macedonia during the period 2004 – 2009

Year	Number of patients				
	Pertussis	Measles	Mumps	Rubella	Tetanus
2004	1	9	69	33	1
2005	7	5	125	31	2
2006	7	3	49	28	1
2007	0	1	284	19	0
2008	0	27	5865	14	0
2009	7	5	10920	11	0
total	22	50	17312	136	4
Periodical prevalence	1,08 / 100 000 inhabitants	2,45 / 100 000	850,60 / 100 000	6,68 / 100 000	0,19 / 100 000

Graph 1: Distribution of patients with vaccine-preventable diseases in Republic of Macedonia during the period 2004 – 2009



Conclusions: In Republic of Macedonia, the coverage rates for the majority of vaccines against certain infectious diseases included in the national mandatory immunization policy are good and are at levels of around 95%. However, there is a slight tendency of reduction in the coverage rates for primary vaccination, as well as in the re-vaccination rates for certain vaccines in 2009.

Key words: immunization, immunization coverage, prevalence.