OUR EXPERIENCE IN PREVENTION BY SELECTIVE IMMUNIZATION AGAINST VIRAL HEPATITIS A AND B OF THE STAFF OF MILITARY MEDICAL ACADEMY – BULGARIA.

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SITUATION IN THE WORLD

- An estimated 1.5 million clinical cases of hepatitis A occur each year. (8)
- In most industrialized nations, where hepatitis A is no longer considered a childhood disease, infections with HAV are increasingly contracted by adults. (3,5)
- Every year there are over 4 millions clinical cases of an acute HBV infection and another 1 million die because of its sequels (hepatic insufficiency, cirrhosis, hepatocellular carcinoma). Furthermore some of the HBsAg careers keep their contagiosity for years. (7)

SITUATION IN BULGARIA

- Bulgaria is situated in a zone of intermediate prevalence of HAV infection, as well as for HBV prevalence. (6,7)
- Medical personnel can be defined as a group of high risk for contracting both HAV or/and HBV.
- Since 1992 the immunization against HBV is obligatory for the newborns.
- Medical personnel has to be obligatorily immunized against HBV and against HAV the immunization is recommendable according to the national immunization calendar.

THE IMMUNISATION APPROACH OF MILITARY MEDICAL ACADEMY

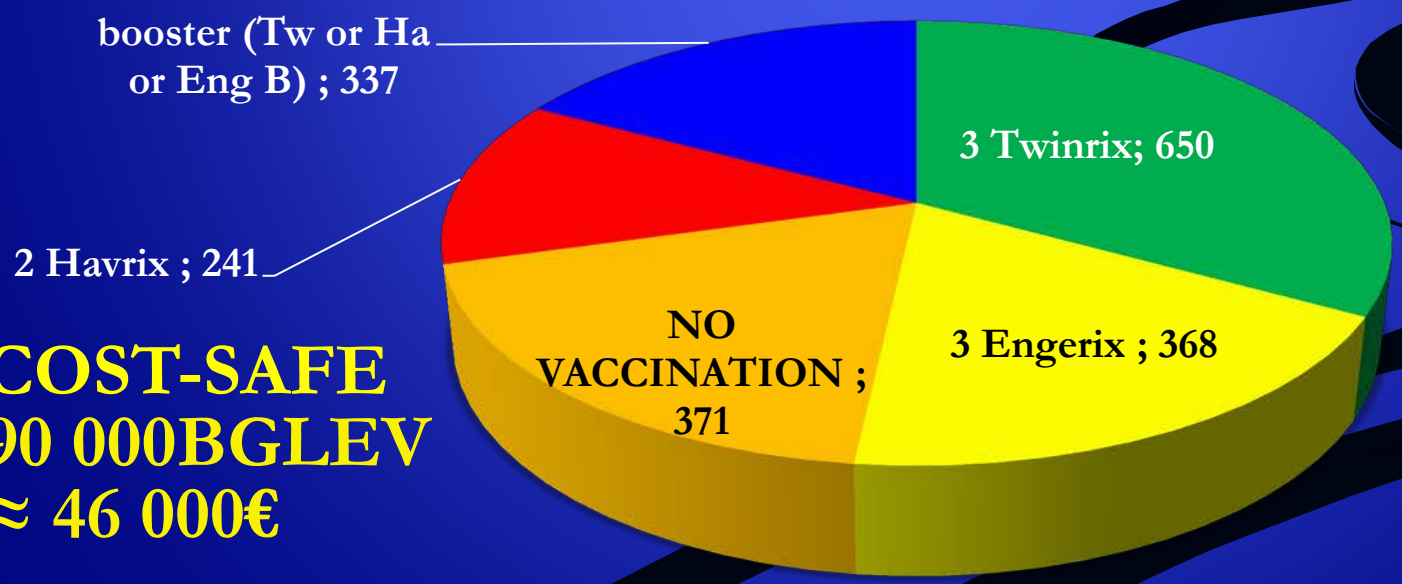
- Considering the mentioned above, as well as the legal regulations for the country, in 2004 the leadership of MMA discussed the possible aspects for prevention of their personnel against viral hepatitis' A and B by large-scale vaccination. The following arguments were discussed:
  - ! It is not ethical to vaccinate any person against a disease without knowing does that person really need such a vaccination!
  - ! Not every medic should be vaccinated because of already present seroconversion!
  - ! The consequences of vaccination, combined with a pre-induced immune response against HAV are still unclear!
  - ? What is the price of such an approach regarding the immunization?

MATERIALS AND METHODS

- On the recommendation of SCMEH – MMA Sofia a selective immunization of military medical personnel against hepatitis' A and B after previous investigation of hepatic markers (antiHBc, antiHAV total, antiHBs) by ELISA method was proposed.
- The investigation has included 1967 persons between 22 and 60 years old (at an average 41,54), for the period April 2005 – December 2010.
- The vaccination was performed by the use of Twinrix, Engerix B and Havrix vaccines (manufacturer Glaxo Smith Kline).

RESULTS & COMMENTS

	Persons	Percentage
Non Immune against HAV & HBV	650	33,05%
Immune against HAV & HBV	371	18,86%
Non-immune against HAV	241	12,25%
Non-immune against HBV	368	18,71%
Partial immunity (A or B)	337	17,13%



COST-SAFE
90 000BGLEV
≈ 46 000€

CONDUCT BASED ON THE OBSERVED RESULTS

- Assessment of an individual immunization schedule for every personnel of MMA.

- Immune against HAV and HBV – no subject of immunization;
- Immune against HAV – vaccination against HBV;
- Immune against HBV – vaccination against HAV;
- Non immune – vaccination against HAV and HVB;
- Partial immunity – booster dose against HAV or HVB.

DISCUSSION

- Our previous investigations show, that for the different age patterns, between 23,4% and 39,6% of otherwise healthy adults there are serological findings for HAV infection in the past. (1)
- Our general observations reveal that in terms of vaccination the behavior of medical staff is divided into different groups:
  - "Prick and forget" - once vaccinated, they are missing deadlines for revaccination or booster doses, and indeed hardly remember when they were vaccinated;
  - "Ever tested" – I've had a hepatitis A or B without realizing it, so I will examine my immune status every year, lest it disappear.
  - "Excellent students" know their immune status and periodically get revaccinated.

DISCUSSION

- The results of our approach for selective immunization confirm the data regarding the cost-effectiveness that is supposed to be different for the different countries and the different occupational and social groups.
- Universal vaccination strategies are cost-effective even in countries with a low prevalence of hepatitis B. (2)
- Despite of the improvement of the situation with HBV infection in the recent years thanks to the immunization programs it still represents a serious health problem. (6)
- *Rajan and al.* propose that where HAV immunity is 45% or less, vaccination should be the strategy of choice, and when immunity is greater than 45%, then screening followed by vaccination should be used. (4)
- Cost-benefit analyses from the United States suggest that large-scale immunization programmes might result in cost savings in some communities. However, depending on the costs associated with clinical disease and vaccination (vaccine and administration), such cost-benefit figures will vary considerably between different countries. (7)

DISCUSSION

- The advantages of our approach:

- Everybody gets information about his immune status regarding HAV and HBV.
- Everybody gets the necessary protection against HAV and HBV thanks to his individual vaccination schedule.
- The nonresponders become aware of their condition and can choose other appropriate ways for protection.
- The screening of 1967 persons led to an approximate cost-safe of ≈ 90 000BG lev ≈ 46 000€.

CONCLUSION

- THE SCREENING FOR ANTIBODIES AGAINST HAV AND HBV PRIOR TO VACCINATION AGAINST THESE DISEASES IS ETHICALLY AND ECONOMICALLY FOUNDED.
- PRIOR TO THE DECISION-MAKING FOR A LARGE-SCALE VACCINATION OF AN APPOINTED CONTINGENT THE POSSIBLE APPROACHES FOR THE TASK EXECUTION SHOULD BE CAREFILLY CONCIDERED!

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QUESTIONS?

THANK YOU FOR YOUR ATTENTION!!!