VACSATC (Vaccine safety: attitudes, training and communication): Why such a project?

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Vaccinations against life-threatening diseases are one of the greatest public health achievements in history. Literally millions of premature deaths have been prevented, and countless more children have been saved from disfiguring illness¹. While vaccinations carry unavoidable risks, the medical, social and economic benefits they confer have led countries in Europe to establish childhood vaccination programs to stop the spread of preventable diseases. The programs in some countries are based on recommendations and in others childhood immunisations have been made mandatory.²,³

Today, however, vaccines are becoming a victim of their success. Many individuals have never witnessed the debilitating diseases against which vaccines protect, leading to complacency towards immunization requirements¹. The risks of side effects of medicinal products - and therefore also of vaccines - are often not effectively communicated to the public, media and health care professionals. Especially the risk - benefit relation including the relation between the number and seriousness of side
effects compared to the number of vaccines administrated and the risk not to be vaccinated is not communicated well. Anti-vaccination sentiment is growing in many European countries, in large part due to the controversial and hotly disputed link between immunization and autism. The results of many surveys on attitudes to immunization demonstrate that mothers believe that Measles, Mumps and Rubella vaccine (MMR) protects against diseases that are not serious. The surveys have also shown that MMR is the vaccine least likely to be considered safe \(^4\) \(^5\) \(^6\) \(^7\) \(^8\) \(^9\) \(^\text{10}\) On the other hand, since 2002, Smith, Yarwood and Salisbury find that the proportion of parents in the United Kingdom believing MMR to be a greater risk than the diseases against which it protects has fallen from 24% to 14%. The proportion of ‘hard-core rejecters’ remains stable in 2006 in this country at just 6%. The most significant finding from this latest survey is that there has been a gradual and sustained increase in the proportion of parents saying MMR was completely safe or posed just a slight risk, from 60% in 2002 to the 2006 level of 74%. Clearly parents find themselves trying to deal with internal conflicts over their perception of the safety of the vaccine and the danger posed by the diseases that it protects against \(^1\) \(^1\). Nevertheless, the situation in other countries and how it is changing is not well known.

Given the impact of concerns about vaccine safety on vaccine coverage, the issue needs to be addressed both by health care professionals at institutions offering paediatric vaccinations \(^\text{9}\) and the future cohort of health care professionals. Medical and paramedical students should receive adequate pre-service training in vaccinology. Health care providers have an important role to play in providing parents with balanced advice on vaccination. \(^1\) \(^\text{0}\) Primary care physicians, paediatricians and family doctors, are the most common interface for parents with the immunization delivery system and are likely to have the greatest opportunity for exposure and experience with parental vaccine safety concerns \(^\text{12}\) \(^\text{13}\). Physicians, nurses, and other health care professionals should increase their efforts to build honest and respectful relationships with patients, especially when parents express concerns about vaccine safety or have misconceptions about the benefits and risks of vaccinations \(^\text{14}\) \(^\text{15}\). Such attitude for health care professionals should already be educated and trained at the level of nurse schools and university.

The consequences of low vaccination coverage are serious not only for unvaccinated children, but also for the rest of society. “Herd immunity” (when most of the population in a community are immune to a particular infection that is spread from person to person, the natural transmission of the infection is effectively inhibited) is
threatened, and outbreaks of diseases\textsuperscript{16} thought to have been brought under control reoccur. The decision-making process around childhood immunization is complex. Parents require information that is up to date, tailored to their individual needs and provided by health professionals who are well informed\textsuperscript{17}. The role of well-trained healthcare staff in giving advice and an opportunity to discuss vaccination with concerned parents is very important\textsuperscript{11,18}. A tutorial “Addressing Parents Concerns About Childhood Immunizations: A Tutorial for Primary Care Providers, has been developed by Levi at Penn State College of Medicine in the United States of America to improve resident physicians’ general knowledge, knowledge of adverse events, and attitudes. This tutorial has the potential to enhance communication between parents and primary health care providers and, more generally, improve clinicians’ response to the growing resistance toward routine childhood immunizations\textsuperscript{19}.

But not only health related personnel could be helpful, school personnel trained in vaccine safety may serve as a valuable source of vaccine information for parents. Public-information campaigns\textsuperscript{20} and use of mobile teams\textsuperscript{21} also have a role to play in disseminating reliable information on vaccines.

Factors influencing individuals' perceptions of vaccines are religious and philosophical beliefs, freedom of choice and individualism, and misinformation and over-perception of risk\textsuperscript{1,10,22,23}. Monitoring, assessing and responding to immunization safety issues of global concern are activities carried out by the Quality, Safety and Standards Team of the World Health Organization’s Department of Immunization, Vaccines and Biologicals. In 1999, the Organization established the Global Advisory Committee on Vaccine Safety \url{http://www.who.int/vaccine_safety/en/} to respond promptly, efficiently, and with scientific rigor to vaccine safety issues of potential global importance. Since its establishment, the Committee has reviewed issues such as the safety of thiomersal; hepatitis B vaccination and multiple sclerosis; measles, mumps and rubella (MMR) vaccination and autism; and safety issues associated with seasonal and pandemic influenza vaccines.

The context in which patients search for health information has changed dramatically with the growth of the internet, advances in telemedicine, and changes in coverage of health issues in the media. Increasingly, individuals search for information online before talking with their physician\textsuperscript{24}. Though public use of the internet for health information is increasing but its effect on health care is unclear, it seems that the net worsens fears regarding vaccination safety. Anti-vaccination sites express a range of concerns related to vaccine safety, relying heavily on emotional appeal to convey their
The most common characteristic of vaccine-critical websites is the inclusion of statements linking vaccinations with specific adverse events; especially idiopathic chronic diseases such as multiple sclerosis, autism, and diabetes. Sites with factual refutation strategies alone are unlikely to counter the highly rhetorical appeals of such sites.

Acknowledging the increase in the number of websites providing unbalanced, misleading and alarming vaccine safety information, WHO initiated, in 2003, the Vaccine Safety Net Project. Through this Project, which aims to facilitate the access of public health authorities, health professionals and the public to reliable information on vaccine safety, websites are evaluated for their adherence to criteria, established by the Global Advisory Committee on Vaccine Safety, for good information practices for vaccine safety websites. Websites meeting content and credibility criteria are listed on the WHO website at http://www.who.int/immunization_safety/safety_quality/vaccine_safety_websites/en/index.html.

Other challenges to achieving and maintaining high level vaccination coverage are changes in demography such as those resulting from immigration. Italy and Spain provide examples, with immigrants to the country coming from countries where rubella vaccine was not administered. As a result, an accumulation of susceptible individuals (particularly among adults) resulted, allowing re-circulation of the rubella virus and outbreaks. A further challenge to the control of infectious diseases is the increased movement of individuals across the world. Countries need to put in place control measures in order to prevent the importation of viruses.

Important is the fact that after vaccination in childhood the adults seem to forget the necessity to vaccinate. Therefore the danger arises that the efforts taken for children lead to a shift of illness which means that adults become ill because lacking of revaccinations. These leads to the necessity to remind the public and the health care professionals to check the vaccine status of adults to avoid infectious diseases and the necessity of communicating adherence to the vaccination schedule in adulthood as well as in childhood.

The Vaccine safety: attitudes, training and communication (VACSATC) project (www.vacsatc.eu) was established in 2006 to study perceptions of immunization and vaccine safety, to improve training of health care professionals on vaccine safety and to improve the availability of information on vaccine safety on the internet which adheres to good information practices. The Project, funded by the European
Commission’s Health & Consumer Protection Directorate-General and by the partners in the project, will run for three years. The project complements the activities of WHO and the Vaccine European New Integrated Collaboration Effort (VENICE) project (http://venice.cineca.org/the_project.html) coordinated by Istituto Superiore di Sanità, Rome in some of the above-noted areas. Improvements in systems for identification and evaluation of adverse events, for training of health personnel and for communicating information to the public should also be carried out as an emergency preparedness measure since immunizations are important both in control of pandemic infections and in defence against bio-terrorism.

Reasons for establishing the VACSATC project were: 1) both the infectious agents and rumours and concerns about vaccine safety cross country borders. The problems cannot be resolved by action in a single country. 2) Further improvements could be made through sharing of experiences in different countries. 3) The participation of centres of excellence will lead to improved quality and rapid dissemination of best practices. 4) Collaboration is a rational use of resources and can reduce duplication of work. 5) Vaccine safety initiatives in individual countries are often inadequately funded\(^1\).

Specific activities of the Project are to: 1) develop a cross-sectional European survey on attitudes to immunization 2) design a pre-service training module on immunization evaluation tool 3) develop and maintain vaccine web sites on immunization for the general public and health care workers. We invite our colleagues in each of our countries and our governments and institutions to cooperate with the project. Some ways of collaboration are to take part in the surveys, to use the pre-service training module when ready and to evaluate it, if asked for; to contribute with the dissemination of it; and to support any complementary project.

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