Knowledge, attitudes, beliefs and practices of general practitioners towards measles and MMR vaccination in southeastern France in 2012

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Abstract

As a result of sub-optimal immunization levels, measles has re-emerged in the EU since 2008 (30 567 cases in 2011), and nearly half of the cases reported are in France. Our objectives were to assess knowledge, attitudes, beliefs and practices of French general practitioners (GPs) towards measles and measles–mumps–rubella (MMR) vaccination. In 2012, we surveyed 329 GPs in southeastern France. Forty-five percent reported that they saw patients with measles in 2011. They considered the risk of complications low among 2–5-year-old children and young adults without co-morbidity. Twenty percent knew that two MMR doses are 99% effective in preventing measles. Nearly all (95%) GPs stated that they verified the MMR status for patients <30 years old in 2011 (42% systematically, 37% often, 15% sometimes). Seventy-nine percent reported proposing MMR vaccination to non-immune relatives in contact with a patient with measles. Participation in continuing medical education courses and considering measles to be a serious disease were independently associated with such post-exposure vaccination. GPs considered the following were potential barriers to the second dose of MMR (MMR2): parents/patients' belief that measles is harmless (80%), parents/patients' fear of the vaccine's side effects (50%), difficulty in documenting vaccination (48%) and lack of reminders for MMR2 (16%). Finally, some GPs also had misconceptions about the severity of measles (13%) and the usefulness of MMR2 (12%), which also served as barriers. In conclusion, it is essential to raise GPs' awareness of this disease and fill any gaps in their knowledge, by providing them with evidence-based information on measles and MMR vaccination.

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Introduction

All countries in the European region of the World Health Organization have renewed their commitment to eliminate measles transmission by 2015 [1]. This elimination is a feasible target but requires vaccination coverage >95% with two doses of a measles–mumps–rubella vaccine (MMR) [1]. Measles has re-emerged in the EU recently as the result of sub-optimal immunization levels that have increased susceptible populations [1,2]. More than half these cases have been reported in France: nearly 15 000 cases in 2011, including 714 of severe measles-related pneumonia, 16 of acute measles encephalitis and six measles-related deaths, compared with 30 567 cases in Europe that year [1–3]. Together with France, four countries —Italy, Romania, Spain and Germany—accounted for >90% of all measles cases reported in 2011 [1,2]. The measles outbreak in France began in 2008. The number of reported cases has decreased sharply since May 2011 [3]. The proportion of cases $\geq$20 years old reached 38% during the first half of 2010 [3,4].

Nonetheless, France has promoted measles vaccination for years, with national and regional campaigns in place since 1990 [3,4]. A trivalent MMR vaccine has been recommended since

1983 and available free of charge since 1999 [3,4]. Health authorities launched a national plan to eliminate measles in 2005 and strengthened it in 2009 [3–5]. The European Immunization Weeks in 2009, 2010 and 2011 provided an opportunity to reinforce communication, focusing especially on vaccination recommendations [4]. A communication campaign took place in France from September 2011 to February 2012.

The first dose (MMR1) is currently recommended at the age of 12 months and the second dose (MMR2) during the second year of life [3]. Since 1997, a catch-up measles vaccination programme with two doses has been recommended for children born in 1992 or later; in 2011, it was extended to everyone born in or after 1980 [3]. Children <16 years old are usually vaccinated by general practitioners (GPs) or paediatricians, and adults by GPs (or occupational physicians). Measles has been a mandatory notifiable disease in France since mid-2005, and guidelines recommend confirming all clinically suspected cases by either serology + PCR in saliva samples or by serology alone in serum samples [3,5]. Physicians are advised to report all clinically suspected cases to health authorities immediately; the latter follow up and eventually classify cases as clinically, laboratory or epidemiologically confirmed [3,5].

Measles incidence and MMR coverage rates vary regionally throughout France [3]. The southeastern region is characterized by vaccination coverage below the national average: 86% for MMR1 and 40% for MMR2 in 2003–04 for children aged 15 years, compared with 94% and 66%, respectively, nationwide [6]. Accordingly, although this region contained only 7.6% of the total French population in 2009, it accounted for 15.6% of all measles cases reported in France in 2011 [3].

Organizational problems, combined with social, psychological and behavioural determinants, are the leading causes of sub-optimal immunization levels [1]. The European Centre for Disease Prevention and Control recently published a review of studies conducted in Europe from January 1991 to September 2011 on knowledge, attitudes and practices of health professionals towards measles and MMR vaccination and the influence of healthcare workers' attitudes on parental vaccination choices [7]. It retrieved 28 studies (two conducted in France), only five of which involved GPs (including one 1998 study in France). All took place before the recent measles outbreak in Europe. This review confirmed that healthcare providers' gaps in knowledge and poor communication towards parents/patients impede high immunization rates.

Our objective was therefore to assess, by a questionnaire survey, GPs' knowledge, attitudes, beliefs and practices towards measles and MMR vaccination in 2012 in southeastern France.

Materials and Methods

Participants

This study was part of the fourth cross-sectional survey conducted as part of the French Regional Panel of General Practices, described elsewhere [8]. This panel survey began in 2010, aiming to study the medical practices of self-employed GPs in southeastern France (the Provence–Alpes–Côte d'Azur region), which had a population of 4.89 million in 2009. Stratified random sampling from the Ministry of Health's ADELI ('Automatisation des Listes') database, which contains extensive information about French physicians' practices, selected GPs. The database was stratified for location of the general practice (urban, suburban or rural), gender, age (<49, 49–56 or >56 years), and volume of activity, defined by the annual number of consultations (<Q1, Q1–Q3 or >Q3).

French GPs work on a fee-for-service basis, so participants received a compensation equivalent to two consultation fees for their participation in each survey. Of the 1108 GPs living in southeastern France and invited to participate in 2010, 67 (6%) could not be contacted and 134 (12%) were ineligible (practised only in hospitals or long-term care facilities, practised only alternative medicine, such as homeopathy or acupuncture, or planned to leave the region in the 6 months to come). Of the remaining 907 GPs, 444 (49%) agreed to participate. Those GPs who refused did not differ from participants according to gender, age or volume of activity, but they were less likely to practice in a rural area (p 0.035). Lack of time was their main reason for refusal. The results presented in this study are based on the 329 GPs who participated in the fourth cross-sectional survey, conducted in March–June 2012. These GPs did not differ from the 115 who did not participate (attrition rate: 25.9% between the first and the fourth cross-sectional surveys) according to gender, age, location or volume of activity.

Procedure and questionnaire

Professional investigators conducted the survey by computer-assisted telephone interviews. The questionnaire was pilot-tested for clarity, length and face validity with 40 GPs.

Respondents were asked questions about their past experience with measles, their usual practices towards measles and MMR vaccination, their knowledge of guidelines and their beliefs about the barriers to MMR2 uptake. They were also asked to rate their perception of the risk of complications for five categories of patients by a five-point Likert-style response ranging from 1, very low risk of complications, to 5, very high risk of complications. Data were merged with data collected at inclusion in the regional panel in June–December, 2010: GPs'