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Future pandemics and vaccination: Public opinion and attitudes across three European countries

Domino Determann[a,b,*], Esther W. de Bekker-Grob[a], Jeff French[c,d], Helene A. Voeten[e], Jan Hendrik Richardus[a,e], Enny Das[f], Ida J. Korfage[a]

[a] Department of Public Health, Erasmus MC, University Medical Center Rotterdam, PO Box 2040, 3000 CA Rotterdam, The Netherlands
[b] National Institute for Public Health and The Environment, Centre for Nutrition, Prevention and Health Services, PO Box 1 (Internal Postal Code 101), 3720 BA Bilthoven, The Netherlands
[c] Strategic Social Marketing Ltd, Conford, Liphook GU30 7QW, United Kingdom
[d] Brighton University Business School, Mitras House, Lewes Road, Brighton BN2 4AT, United Kingdom
[e] Municipal Public Health Service Rotterdam-Rijnmond, PO Box 70032, 3000 LP Rotterdam, The Netherlands
[f] Centre for Language Studies, Radboud University, PO Box 9103, 6500 HD Nijmegen, The Netherlands

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ABSTRACT

Background: Understanding public opinion and attitudes regarding vaccination is crucial for successful outbreak management and effective communication at the European level.
Methods: We explored national differences by conducting focus group discussions in The Netherlands, Poland and Sweden. Discussions were structured using concepts from behavioural models.
Results: Thematic analysis revealed that participants would base their vaccination decision on trade-offs between perceived benefits and barriers of the vaccine also taking into account the seriousness of the new outbreak. Except for those having chronic diseases, participants expected a low infection risk, resulting in a low willingness to get vaccinated. Information about the health status of cases was considered important since this might change perceived susceptibility. Participants displayed concerns about vaccine safety due to the limited available time to produce and test vaccines in the acute situation of a new pandemic. Swedish participants mentioned their tendency of doing the right thing and following the rules, as well as to get vaccinated because of solidarity with other citizens and social influences. This appeared much less prominent for the Dutch and Polish participants. However, Swedish participants indicated that their negative experiences during the Influenza A/H1N1 2009 pandemic decreases their acceptance of future vaccinations. Polish participants lacked trust in their national (public) health system and government, and were therefore sceptical about the availability and quality of vaccines in Poland.
Conclusions: Although participants overall expressed similar considerations, important differences between countries stand out, such as previous vaccination experiences, the degree of adherence to social norms, and the degree of trust in health authorities.

1. Introduction

Outbreaks of communicable diseases will cross borders, with Influenza A/H1N1 [1] and Ebola [2] being recent examples, and increased international travel and migration will facilitate their speed and spread [3]. Cross-border collaboration in the management of future outbreaks within Europe is therefore necessary. Since public health professionals and authorities will be focused on controlling the spread and impact of the new disease during such an outbreak [4], it is essential to timely update and improve existing European pandemic preparedness plans, preferably before outbreaks begin [5].

The success of mitigating a new outbreak is largely dependent on the willingness of the public to comply with recommended preventive measures. Understanding the public opinion and attitudes regarding preventive measures is thus crucial for successful outbreak management and effective communication. Reasons to

* Corresponding author at: Department of Public Health, Erasmus MC, University Medical Center Rotterdam, PO Box 2040, 3000 CA Rotterdam, The Netherlands. Tel.: +31 107043502.
E-mail addresses: d.determann@erasmusmc.nl (D. Determann), e.debekker@erasmusmc.nl (E.W. de Bekker-Grob), jeff.french@strategic-social-marketing.org (J. French), h.voeten@Rotterdam.nl (H.A. Voeten), j.richardus@erasmusmc.nl (J.H. Richardus), h.das@let.ru.nl (E. Das), i.korfage@erasmusmc.nl (I.J. Korfage).

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Table 1
Summary of participants' characteristics ($n = 41$).

	Dutch participants[a] ($n = 17$)	Polish participants[a] ($n = 12$)	Swedish participants[a] ($n = 12$)
Median age in years (range)	47 (22–77)	46 (19–61)	40 (21–80)
Female	8/17	6/12	6/12
Low educational level[b]	12/17	6/12	8/12
Having children	9/17	8/12	3/12
Belonging to risk group	8/17	2/12	2/12
If yes, seasonal influenza vaccine	7/8	0/2	1/2
Vaccinated against H1N1	9/17	0/12	10/12
Preventive measures against H1N1, other than vaccination	4/17	2/12	9/12
If yes, type of preventive measures[c]			
Hygiene[d]	4/4	2/2	6/9
Use nose-mouth mask	–	–	1/9
Avoid travelling abroad	–	–	1/9
Avoid crowded places	–	–	1/9
Not specified	–	–	3/9

[a] We conducted two focus group discussions in The Netherlands with nine and eight participants, respectively. In Poland and in Sweden six persons participated per discussion.
[b] In all countries, high educational level was defined as tertiary education; all other educational levels were defined as 'low'.
[c] Some participants stated that they applied multiple measures.
[d] Hygiene includes washing hands more often, use hand sanitizer, cleaning desktop more often, etc.

accept or decline preventive measures in pandemic situations have been described [4,6–12], but very little is known about potential differences herein across Europe.

We therefore conducted focus group discussions in three countries across Europe to explore (1) the public opinion and attitude regarding future pandemics and vaccination and (2) potential differences in opinions and attitudes between participants in The Netherlands, Sweden, and Poland.

2. Methods

We opted for focus group discussions (FGDs) [13,14] to explore public opinion and attitudes. FGDs were chosen because these enable unforeseen topics to arise and to be explored in depth [15]. We developed a theory based semi-structured question route based on the Health Belief Model and two elements from other behavioural models (Supplementary files A and B). The question route was pilot tested, evaluated and improved where necessary.

The Medical Ethics Committee of the Erasmus University Medical Center Rotterdam approved the study protocol (MEC-2012-263). Independent research agencies recruited 6–9 participants per FGD and used purposive sampling methods to ensure a diverse sample regarding age, sex, and educational level. Participants received a financial incentive for their contribution, adapted to the national norm.

In each country, moderators trained in performing qualitative research conducted two FGDs in large cities in 2012. One of the authors (DD) debriefed the Polish and Swedish moderators before the discussion about background of the study and the question route. All participants gave written informed consent prior to the discussions. FGDs lasted for approximately 90 min and were conducted in the native language. All FGDs were audio taped and field notes were made during each discussion. At the end of the FGDs all participants completed a short questionnaire on socio demographics and previous experiences with preventive measures.

The discussions were transcribed verbatim and identifiable data was removed. The entire Swedish and Polish transcripts, and the selected Dutch quotes were translated into English. A thematic analysis was performed [14,16]. First, two authors (DD and IK) independently read all transcripts in-depth. Second, they created a provisional coding tree, based on the themes that emerged from the data. Third, they each identified and coded relevant text passages in one transcript per country and refined the coding tree. Perceived discrepancies between coders were discussed until consensus was reached and the coding tree was finalized. Fourth, one author (DD) coded the three remaining transcripts using the final coding tree (Supplementary file C) and discussed her findings with IK. All transcripts and codes were imported into NVivo software (version 10, http://www.qsrinternational.com/) to enable systematic comparisons between different countries. We followed the COREQ-checklist when writing this paper [17].

3. Results

In total, 41 people participated in six FGDs (Table 1). The median age ranged from 40 (Sweden) to 47 (The Netherlands). Approximately half of the participants were female. Lower and higher educated people participated in each FGD.

The results are presented according to the themes that emerged from the data and were used in the final coding tree (Supplementary file C). Representative quotations for each theme were selected to illustrate the results. If a quotation characterizes a minority opinion, it is indicated. The quotations are numbered; an additional label refers to the FGD ID.

3.1. Pandemic outbreak

Participants of all countries argued that their degree of concern for a new disease would depend on the mode and speed of transmission. They also would want to know the consequences of a disease, especially if potentially fatal, before deciding to take preventive measures or not. Often, comparisons with previous communicable disease outbreaks were made:

> *'I think it is all about this danger. If there is to be a new swine flu, maybe you will not actually get vaccinated, because you think it's not that dangerous. But if there is an Ebola epidemic. . .'* (Q1SE1).

Dutch participants discussed that there would be no immunity for an outbreak with a new virus, thus resulting in uncertainty regarding the course of the disease. Swedish participants reasoned that they would experience the threat of a new disease as severe because they live in such a safe country:

> *'We do not have many other dangerous things to compare* [the disease] *with, so small things become dangerous to us'* (Q2SE1).

Participants stated that they would weigh the threat of a new disease within the context of their own health status. Except for those who belong to a risk group (diabetes, asthma), most participants expected a low infection risk, e.g. thanks to healthy eating and living, and good personal hygiene. Participants considered