

Facilitating the Introduction of RSV Immunisation in the EU

STUDY REPORT FOR KEY STAKEHOLDERS

AUGUST 2024

PROMISE

PROMISE (Preparing for RSV Immunisation and Surveillance in Europe), an IMI funded project, kicked off November 1st, 2021, with the objective of taking a major leap forward in the fight against Respiratory Syncytial Virus (RSV) in Europe and worldwide.

For more information visit: www.imi-promise.eu



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ORGANISATION



PROMISE

The PROMISE project (Preparing for RSV Immunisation and Surveillance in Europe) aimed to develop a robust surveillance network on RSV disease, with the goal of strengthening epidemiological and virological surveillance in Europe. PROMISE brought together translational scientists, clinicians, public health agencies, the pharmaceutical industry, patient groups and clinical societies from 22 world class organisations to make a breakthrough in RSV (Respiratory Syncytial Virus) research. Specifically, this initiative funded by the Innovative Medicines Initiative (IMI), focused on advancing scientific knowledge on RSV to inform public health strategies and bolster the development and introduction of novel immunisations tools and therapeutics in Europe. Since the development of preventative measures such as a vaccine and monoclonal antibodies are well under way, PROMISE aimed to prepare for the introduction of such treatments and prophylactic interventions. The initiative was built on RESCEU (Respiratory Syncytial Virus Consortium in Europe), another IMI project which generated valuable insights into the impact of RSV on healthcare systems and society, amongst other significant results, such as creating a bio-repository to assist future research.



The ReSViNET Foundation

The ReSViNET Foundation is the international leading non-profit organisation committed to reducing the global burden of Respiratory Syncytial Virus (RSV) infection. RSV Acute Lower Respiratory Infection (ALRI) is one of our most significant global healthcare challenges, not only in infants, but also in older adults. In the past decade, the substantial burden of RSV disease has received increasing recognition globally. RSV is the second leading cause of infant mortality after the neonatal period with more than 99% of childhood deaths occurring in Low and Middle Income Countries (LMICs). Nevertheless, the RSV burden in children is likely underestimated. It is estimated that globally in 2019, there were 33 million RSV-associated ALRI episodes, 3,6 million RSV-associated ALRI hospital admissions, 26,300 RSV-associated ALRI in-hospital deaths, and 101,400 RSV-attributable overall deaths (84,500–125,200) in children aged 0–60 months. Likewise, historically the burden of morbidity and mortality due to RSV in older adults (>60 years of age) has been under recognised. Recent studies estimate that the RSV burden is similar to the burden of seasonal influenza in adults >65 years of age, however, estimates are likely still underestimated because in most hospitals testing for RSV is not routinely performed. In 2023 different interventions have entered the market for both target groups.



RSV Patient Network

The RSV Patient Network was founded in 2013 as a group of parents whose children were hospitalised with RSV infection during infancy. Over time, it has expanded to include adults over 60 and future parents, representing all key target groups affected by RSV. In 2019, the network became part of the ReSViNET Foundation, which is dedicated to raising public awareness of RSV.

To support this mission, the Patient Advisory Board actively participates in various RSV research projects, providing a patient-centered perspective. By drawing on real-world experiences, the board makes independent, valuable contributions to the relevance, quality, and outcomes of RSV research, ensuring that the patient voice shapes and strengthens the understanding of RSV.

SUMMARY

Background

Respiratory Syncytial Virus (RSV) is a common respiratory virus that usually causes mild, cold-like symptoms but it can also cause serious disease in children, older adults (>60 years of age) and adults with chronic medical conditions (such as COPD, asthma, heart diseases, or diabetes). In fact, in children RSV is a leading cause of hospitalisation in Europe (EU). It may cause bronchiolitis and pneumonia and can lead to fatal respiratory distress. In the EU, approximately 245,000 yearly hospital admissions were associated with RSV in children younger than five years of age, with most cases occurring among children below one year old (Del Ricio et al., 2023). In older adults, every year about 3-6% of all older adults are infected with RSV. Course of disease is more severe in older adults with severe underlying disease such as heart failure or COPD. Recently, FDA and EMA have approved several immunisation products to prevent severe RSV infection in infants and older adults.

Aim and Methods

The objective of this study was to explore the barriers to RSV immunization among (future) parents and older adults in EU countries through the use of online surveys. The ultimate goal was to provide key stakeholders—such as academia, (inter)national public health agencies, EPFIA, regulators, decision-makers, the EMA, and others—with recommendations for informing these populations about RSV immunization products. To achieve this, two tailored questionnaires were developed to assess perceptions and information needs regarding RSV and its immunisation products. These questionnaires were designed specifically for the two target groups—(future) parents and older adults—and were translated and distributed across eight European countries.

Results

A total of 1,600 (future) parents and 800 older adults completed the questionnaire. Overall, parents demonstrated a considerable level of knowledge about RSV, with 61.7% indicating some degree of awareness. Women and individuals with higher education levels were more likely to be knowledgeable about RSV. The majority of parents perceived the risk of RSV for infants as high to very high (85.2%). In contrast, older adults generally had less specific knowledge, as RSV is commonly associated with infants and young children.

Parents expressed more confidence in the protection provided by monoclonal antibodies and maternal vaccination than in their safety, with concerns mainly focused on potential side effects for their babies. Older adults, on the other hand, showed confidence in both the protection (78.7%) and safety (77.7%) of RSV vaccines. Parents favored the use of monoclonal antibodies and maternal vaccination and emphasized the importance of having access to reliable information, the ability to discuss vaccination options with healthcare providers, and free access to immunization products. General practitioners (GPs) were identified as their most trusted source of information. Similarly, older adults valued reliable information, the opportunity to discuss immunization options with healthcare providers, and access to free immunization products in their decision-making process.

SUMMARY

Conclusions

Compared to older adults, parents generally possess a deeper understanding of RSV and express greater concern about RSV impact on their babies. While parents show confidence in immunizations for their children, they remain apprehensive about potential side effects. Older adults, similarly, demonstrate confidence in vaccines.

For both groups, access to reliable information, the opportunity to consult with healthcare providers, and the availability of free immunization products are seen as essential factors in their decision-making processes.

Keywords

RSV, Questionnaire, Older Adults, Parents, Immunisation Products, Immunisation Introduction, Evidence-Based Decision Making

METHODOLOGY

Questionnaire Development

Two questionnaires were developed to assess perceptions and information needs regarding RSV and immunization products among (future) parents and older adults. These questionnaires were specifically tailored to each target population. Before their dissemination, a literature review was conducted focusing on three key areas: (1) existing questionnaires about RSV vaccinations; (2) questionnaires addressing general vaccination attitudes or vaccinations for other specific diseases; and (3) general attitudes and information needs related to vaccination. Based on these insights, draft versions of the questionnaires were created and tested through cognitive interviews with the target populations to ensure high content validity.

Cognitive Interviews

Participants were recruited through the ReSViNET Foundation network. Ten (future) parents (adults aged >18 years with at least one child under 5 years or who were pregnant) and five older adults (>60 years) were interviewed. Due to the overlap in questionnaire components between the two populations, these numbers were considered sufficient. The interviews were conducted in two rounds. After the first round, the questionnaires were revised based on the feedback received, with additional input from ReSViNET. The updated versions were then tested in the second round, after which further adaptations were made, leading to the development of the final questionnaire for distribution.

Cultural Adaptation and Translation

We sought feedback on culturally sensitive questions from international contacts, including professionals and members of the ReSViNET Patient Advisory Board (PAB). It was essential to account for variations between countries, such as the types of healthcare professionals pregnant women typically interact with and the specific terminology used for national vaccination programs. During the translation process, we obtained feedback from at least one professional and one PAB member from each country. The questionnaires were then adapted, translated, and distributed across the following eight European countries:



Data Collection

Data collection was automatically closed once the target of N=200 (future) parents and N=100 older adults per country was achieved. All data were gathered between 6 and 14 December 2023. Below is an overview of the eligibility criteria for participation in the questionnaires:

ELIGIBILITY FOR (FUTURE) PARENTS:	ELIGIBILITY FOR OLDER ADULTS:
>18 years old	>60 years old
Living in one of the eight European countries and able to read the main language of that country	Living in one of the eight European countries and able to read the main language of that country
Had one or more children <5 years and/or the participant or participant's partner was pregnant or trying to become pregnant	

METHODOLOGY

Data Analysis

Analyses were conducted in Stata version 16.1. Data from the two populations ((future) parents and adults >60 years old) were analysed separately and the process for data analysis for each population is explained below:

RESULTS

Parents

We used multilevel analysis to examine which background characteristics were associated with self-reported RSV knowledge levels. We initially included country of residence in the model, and if it was found to be significant, we then added variables such as gender, education level, and age. To analyze the factors influencing participants' willingness to receive a protective injection (responses being yes, no, or not sure), we conducted multinomial logistic regression analyses. This allowed us to explore the relative impact of these variables on participants' decisions regarding RSV immunization. Independent variables included RSV knowledge, confidence in immunisation product's safety, confidence in immunisation product's protection against RSV, worries about immediate side effects, worries about long-term effects, and individual background characteristics (age, gender, education level, and country of residence). To compare the outcome between countries, we took the country with the highest percentage of participants indicating that they would want the immunisation product as the base outcome. As perceptions regarding RSV and willingness to get the immunisation product were only measured among participants indicating moderate to high RSV knowledge, a subgroup analysis was performed. Independent variables included perceived risk and danger of RSV for babies, confidence in immunisation product's safety, confidence in immunisation product's protection against RSV, worries about immediate side effects, worries about long-term effects, and individual background characteristics (age, gender, education level, and country of residence). To examine differences in willingness to give the monoclonal antibody to a baby (yes vs. no or not sure) compared to getting the maternal vaccination during pregnancy (yes vs. no or not sure), Chi-square tests for comparing proportions were utilised. Separate analyses were conducted for each country. Open-ended question responses were analysed thematically. For each country, we summarised where participants with RSV knowledge obtained or found information about RSV. For the most frequently reported information sources per country we reported how reliable, clear, and useful participants found these sources. Additionally, we summarised participants' preferences regarding the sources of information about RSV and immunisation products against RSV.

Older Adults

We assessed what background characteristics were associated with self-reported RSV knowledge levels using a multilevel analysis. Initially, we included country of residence, and if found significant, we subsequently added gender, education level, and age. To assess factors associated with participants' willingness to get a vaccine (responses being yes, no, not sure), multinomial logistic regression analyses were conducted. Independent variables included RSV knowledge, confidence in vaccine safety, confidence in protection offered by the vaccine, worries about side-effects, worries about long-term effects, age, gender, education level, and country of residence. To compare the outcome between countries, we took the country with the highest percentage of participants indicating that they would want the immunisation product as the base outcome. As perceptions regarding RSV and willingness to get the vaccination were only measured among participants indicating moderate to high RSV knowledge, we performed a subgroup analysis among this group. The group was divided into participants aged <75 years old, and participants aged 75 years and older. We only conducted a subgroup analysis among participants <75 years old, as the group of participants aged ≥75 years old with knowledge of RSV was too small. Independent variables included perceived risk of catching RSV for adults >60 years old, perceived danger of adults aged 60-74 years old catching RSV, confidence in vaccine safety, confidence in vaccine protection, worries about immediate side effects, worries about long-term side effects, age, gender, education level, and country of residence.

RESULTS

In total, **1600** (future) parents and **800** older adults completed the questionnaire. The results were divided into four sub-categories for both parents and older adults and concluded with a summary of implications and recommendations for key stakeholders. The characteristics of the participants can be found in **Table 1 (parents)** and **Table 2 (older adults)**.



A. Knowledge of RSV	B. Perceptions of RSV	C. Immunisation Products	D. Needs in Decision Making
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Table 1. Parents - Characteristics of Participants:

CHARACTERISTIC	TOTAL (n=1600)	BELGIUM (n=200)	GERMANY (n=200)	FINLAND (n=200)	FRANCE (n=200)	ITALY (n=200)	SPAIN (n=200)	NL (n=200)	UK (n=200)
Age in Years (Mean (SD))	33.6 (6.5)	31.7 (6.7)	35.1 (4.8)	33.6 (7.1)	33.6 (6.5)	35.3 (7.4)	33.0 (6.6)	33.7 (5.9)	33.2 (5.9)
Female (N, (%))	1114 (69.6)	124 (62.0)	168 (84.0)	129 (64.5)	146 (73.0)	122 (61.0)	135 (67.5)	142 (71.0)	148 (74.0)
Education Level*									
Low (N, (%))	50 (3.2)	12 (6.2)	3 (1.5)	15 (7.5)	4 (2.1)	9 (4.6)	4 (2.0)	2 (1.0)	1 (0.5)
Medium (N, (%))	686 (43.6)	94 (48.7)	40 (20.1)	95 (47.7)	108 (55.7)	94 (47.5)	82 (41.4)	97 (48.5)	76 (39.8)
High (N, (%))	836 (53.2)	87 (45.1)	156 (78.4)	89 (44.7)	82 (42.3)	95 (48.0)	112 (56.6)	101 (50.5)	114 (59.7)
Has Children (N, (%))	1561 (97.6)	193 (96.5)	197 (98.5)	196 (98.0)	197 (98.5)	195 (97.5)	192 (96.0)	194 (97.0)	197 (98.5)

*The education levels are defined as:

Low	• No formal education or primary education
Medium	• Secondary vocational training, middle-level applied education, or secondary education
High	• Tertiary education

Table 2. Older Adults - Characteristics of Participants:

CHARACTERISTIC	TOTAL (n=800)	BELGIUM (n=100)	GERMANY (n=100)	FINLAND (n=100)	FRANCE (n=100)	ITALY (n=100)	SPAIN (n=100)	NL (n=100)	UK (n=100)
Age in Years (Mean; SD)	66.7 (5.5); 60-96	65.4 (5.0), 60-80	67.2 (6.5), 60-96	67.0 (5.4), 60-82	66.7 (5.6), 60-88	65.8 (4.3), 60-82	64.9 (4.7), 60-88	69.0 (5.2), 60-86	67.6 (6.2), 60-90
Female (N, (%))	371 (46.4)	40 (40.0)	47 (47.0)	50 (50.0)	55 (55.0)	50 (50.0)	45 (45.0)	42 (42.0)	42 (42.0)
Education Level*									
Low (N, (%))	225 (28.2)	33 (33.0)	26 (26.0)	28 (28.3)	14 (14.1)	25 (25.0)	30 (30.3)	38 (38.0)	31 (31.0)
Medium (N, (%))	302 (37.9)	34 (34.0)	40 (40.0)	34 (34.3)	56 (56.6)	56 (56.0)	25 (25.3)	31 (31.0)	26 (26.0)
High (N, (%))	270 (33.9)	33 (33.0)	34 (34.0)	37 (37.4)	29 (29.3)	19 (19.0)	44 (44.4)	31 (31.0)	43 (43.0)

*The education levels are defined as:

Low	• No formal education, primary education, lower or preparatory professional education, middle-level secondary education
Medium	• Middle-level applied education, selective secondary education
High	• Tertiary professional education or university

MAJOR FINDINGS

PARENTS

Read more on:

A. Knowledge of RSV

pg
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The results revealed that the majority of (future) parents (61.7%) reported having "a bit," "quite a bit," or "a lot" of knowledge about RSV. Furthermore, country of residence was found to be significantly associated with self-reported knowledge of RSV.

pg
17

1. Age is not associated with self-reported knowledge of RSV for (future) parents.
2. Women reported higher self-reported knowledge of RSV compared to men.
3. Higher level of education correlates positively with higher knowledge of RSV.

B. Perceptions of RSV

pg
18

Most participants believed that the risk of a baby catching RSV was 'a bit high', 'high' or 'very high' (85.2%) and that RSV was 'a bit dangerous', 'dangerous' or 'very dangerous for babies' (94.5%).

C. Immunisation Products

pg
19

For the monoclonal antibody, (future) parents expressed greater confidence in its protection (44.9%) compared to its safety (24.3%) for babies. Additionally, confidence levels in both the safety and protection of the immunization product varied significantly depending on the country of residence, highlighting the influence of regional factors on parental perceptions.

pg
20

There was no significant difference between the extent to which participants were worried about immediate side effects (32.5%) versus long-term side effects (33.5%). Additionally, levels of worry about side effects varies based on country of residence.

pg
21

Parents were more willing to give their baby the *Monoclonal Antibody* if:

- They had higher knowledge about RSV;
- They had more confidence in the immunisation product's safety and effectiveness and;
- They were less worried about immediate and long-term harmful effects.

pg
22

Overall, the majority of (future) parents (78.7%) were confident about the protection of the *Maternal Vaccination* against RSV. However, participants were more confidence about the safety for the pregnant woman versus the baby in the womb.

pg
23

For the *Maternal Vaccination*, parents were more worried about the side effects for the baby than for the pregnant woman.

pg
24

Participants were more likely to want the *Maternal Vaccination* if:

- They had higher knowledge about RSV;
- They had more confidence in the immunisation product's safety and effectiveness and;
- They were less worried about immediate and long-term harmful effects.

pg
25

Parents were similarly likely to accept monoclonal antibody immunisation and maternal vaccination.

D. Needs in Decision Making

pg
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Participant indicated the most important factors in decision making were:

1. Access to reliable information;
2. ability to discuss the immunisation options with a healthcare provider and;
3. access to free immunisation products.

pg
27

GPs are the most trusted source of information across all countries. When asked where parents would like to receive information GPs were their top choice followed by Child Clinics and Midwives.

Monoclonal Antibody

Maternal Vaccination

MAJOR FINDINGS

OLDER ADULTS

Read more on:

A. Knowledge of RSV

pg
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The results showed that overall the majority of older adults (72.8%) indicated to know 'nothing at all' or 'almost nothing' about RSV. Additionally, country of residence was associated with self-reported knowledge of RSV.

pg
30

1. Age and education levels were not related to knowledge levels for older adults.
2. Women indicated higher self-reported levels of knowledge compared with men.

B. Perceptions of RSV

pg
31

The majority (79.7%) of participants found the risk of catching RSV high (sum of 'high', 'a bit high' and 'very high').

pg
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Participants indicated RSV to be more dangerous for adults aged ≥ 75 years than for adults aged 60 to 75 years old.

C. Immunisation Products

pg
32

Overall, the majority of participants were confident in the safety and protection of the vaccine against RSV. However, older adults were slightly more confident in the protection (78.7%) than in the safety (77.7%) of the vaccine.

pg
33

There were no significant difference in older adults concerns about immediate side effects versus long-term effects, however, about 60% expressed worries about the side effects.

pg
33

The majority of participants (89%) found it important that a vaccine for RSV for older adults becomes available.

pg
34

Older adults were more likely to indicate that they would want the vaccine if they had more confidence in the safety and protection of the vaccine, and were less worried about side effects.

pg
35

Participant indicated the most important factors in decision making were:
1. Access to reliable information; 2. ability to discuss the immunisation options with a healthcare provider and; 3. access to free immunisation products.

D. Needs in Decision Making

pg
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For older adults, the majority of participants receive information about RSV from their GPs, google, and family and/or friends.

pg
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When asked about where they would like to receive information about RSV, GPs were the most desired source of information, followed by government and hospitals.

RESULTS

PARENTS



A. KNOWLEDGE ABOUT RSV

First, we aimed to understand the self-reported levels of knowledge about RSV among (future) parents based on country of residence (Table 3 (N=1600) and Graph 1). The responses are categorised into levels of knowledge, ranging from 'nothing at all', 'almost nothing', 'a bit' to 'quite a bit' and 'a lot'.

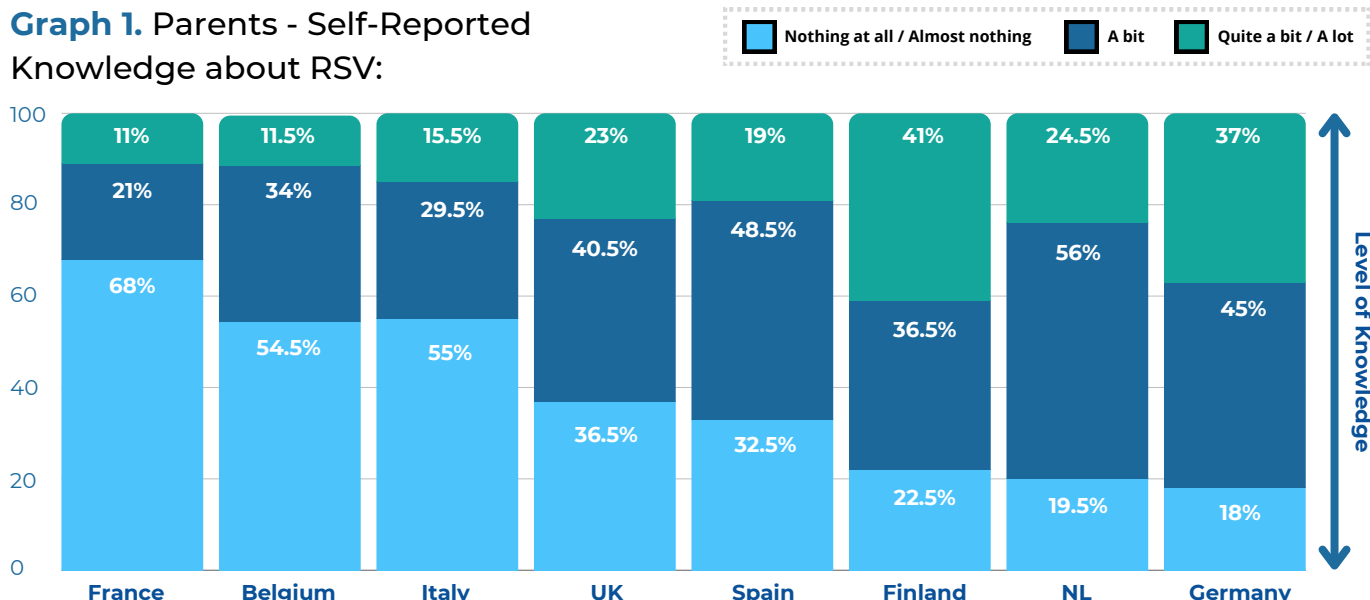


Question: How much do you know about RSV?

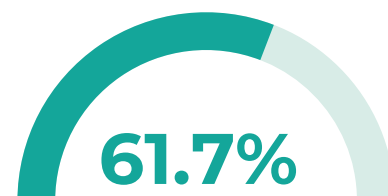
Table 3. Self-Reported Knowledge about RSV (N(%)):

RESPONSE OPTIONS	TOTAL (N=1600)	BELGIUM (N=200)	GERMANY (N=200)	FINLAND (N=200)	FRANCE (N=200)	ITALY (N=200)	SPAIN (N=200)	NL (N=200)	UK (N=200)
Nothing at all	208 (13.0)	40 (20.0)	9 (4.5)	7 (3.5)	67 (33.5)	32 (16.0)	18 (9.0)	11 (5.5)	24 (12.0)
Almost nothing	405 (25.3)	69 (34.5)	27 (13.5)	38 (19.0)	69 (34.5)	78 (39.0)	47 (23.5)	28 (14.0)	49 (24.5)
A bit	622 (38.9)	68 (34.0)	90 (45.0)	73 (36.5)	42 (21.0)	59 (29.5)	97 (48.5)	112 (56.0)	81 (40.5)
Quite a bit	297 (18.6)	17 (8.5)	52 (26.0)	67 (33.5)	19 (9.5)	26 (13.0)	32 (16.0)	43 (21.5)	41 (20.5)
A lot	68 (4.3)	6 (3.0)	22 (11.0)	15 (7.5)	3 (1.5)	5 (2.5)	6 (3.0)	6 (3.0)	5 (2.5)

Graph 1. Parents - Self-Reported Knowledge about RSV:



The majority of participants indicated to have 'a bit', 'quite a bit' or 'a lot' of knowledge of RSV (61.7%). However, based on the findings levels of knowledge vary significantly per country. For example, **Belgium (11.5%)** and **France (11%)** show the lowest number of respondents with extensive knowledge about RSV. In **France**, specifically, **68%** reported knowing 'nothing at all/ almost nothing'. In contrast, **Germany** stands out with a significant number of respondents indicating extensive knowledge about RSV (**37%**), suggesting a relatively higher level of awareness of RSV. In descending order, the ranking is: France, Belgium, Italy, UK, Spain, the NL, Finland and Germany.



of parents knew 'a bit', 'quite a bit' or 'a lot' about RSV.



The results showed that overall the majority of (future) parents (61.7%) indicated to have 'a bit', quite a bit' or 'a lot' of knowledge of RSV. Additionally, country of residence is significantly associated with self-reported knowledge of RSV.

A. KNOWLEDGE ABOUT RSV

Additionally, to assess which background and individual-level characteristics (such as age, gender and education level) are associated with self-reported RSV knowledge levels a multilevel analysis was conducted. The first model (Table 3; pg. 13), only including country-level variation, indicated a significant fit ($\chi^2(1)=199.5$, $p<.001$). In the second model (N=1571) ($\chi^2(4)=61.13$, $p<.001$), in which individual-level predictors were added (Table 4 and Figure 1).



Question: How much do you know about RSV?

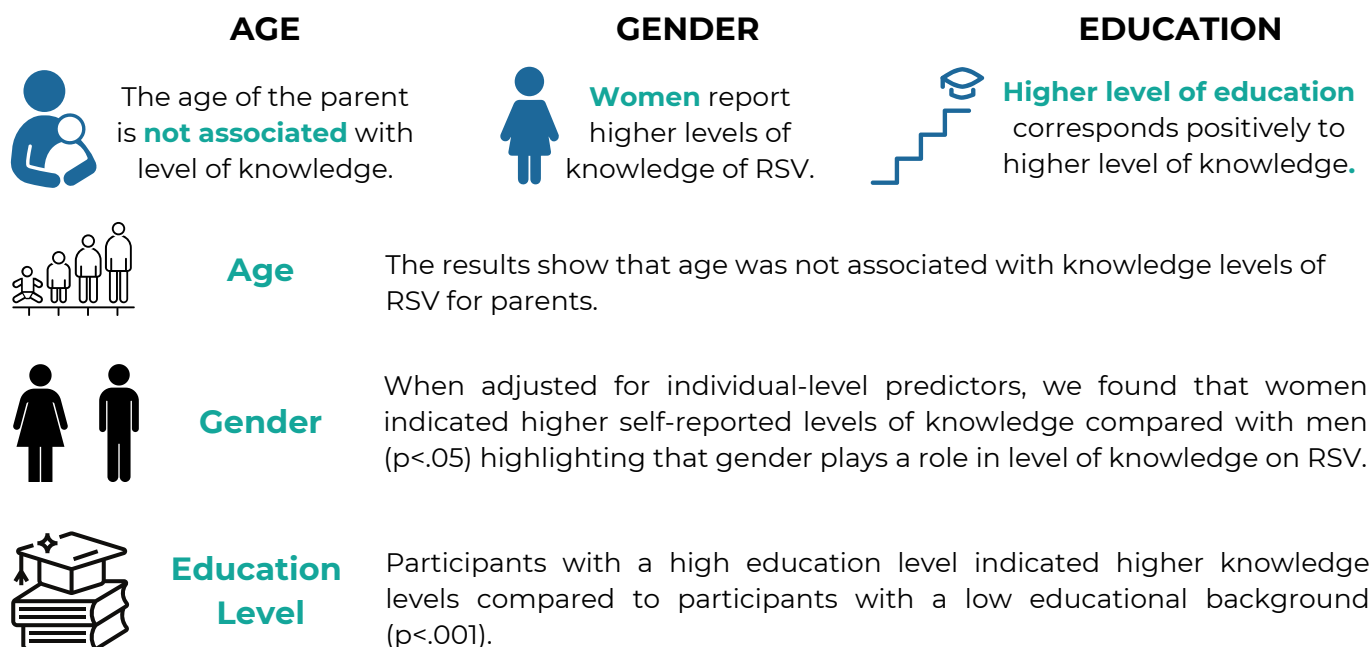
Table 4. Associations between Background Characteristics and Knowledge:

MODEL	VARIABLE	COEFFICIENT (95% CI)	SE	P-VALUE
LEVEL 1	Intercept	2.76 (2.49, 3.02)	0.14	0.000
LEVEL 2	Age	-0.00 (-0.01, 0.00)	0.00	0.348
	Female Gender	0.16 (0.06, 0.27)	0.05	0.003
	Education Level*			
	Medium	0.22 (-0.04, 0.50)	1.60	0.110
	High	0.54 (0.27, 0.81)	3.87	0.000
	Intercept	2.39 (1.93, 2.84)	0.23	0.000

*The education levels are defined as:

Low	• No formal education or primary education
Medium	• Secondary vocational training, middle-level applied education, or secondary education
High	• Tertiary education

Figure 1. Associations between Background Characteristics and Knowledge:



- 1. Age is not associated with self-reported knowledge of RSV for (future) parents.
 - 2. Women reported higher self-reported knowledge of RSV compared to men.
 - 3. Higher level of education correlates positively with higher knowledge of RSV.

B. PERCEPTIONS ABOUT RSV

Next, participants (N=987) were asked to rate the level of perceived risk of catching RSV for a baby (from 'not high at all' to 'very high') (Table 5; Graph 2) and the level of danger of RSV (from 'not dangerous at all' to 'very dangerous') (Table 6; Graph 3). The results shown are the mean of all countries.

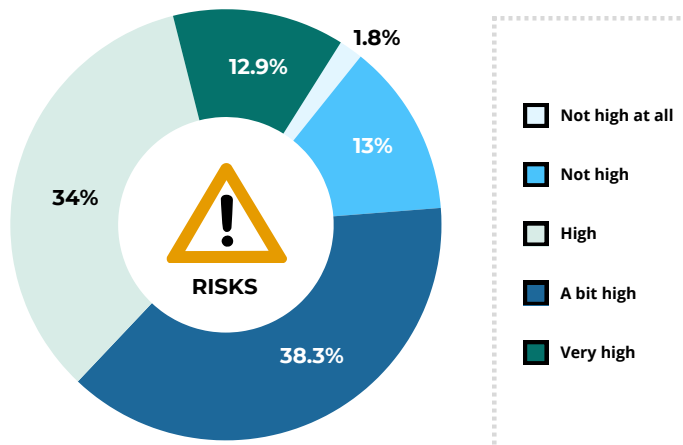


Question: How high do you think the risk is of a baby (0-12 months) catching RSV?

Table 5. Perceived Risk of RSV:

RESPONSE OPTION	N (%)
Not high at all	18 (1.8)
Not high	128 (13.0)
A bit high	378 (38.3)
High	336 (34.0)
Very high	127 (12.9)

Graph 2. Perceived Risk of RSV:

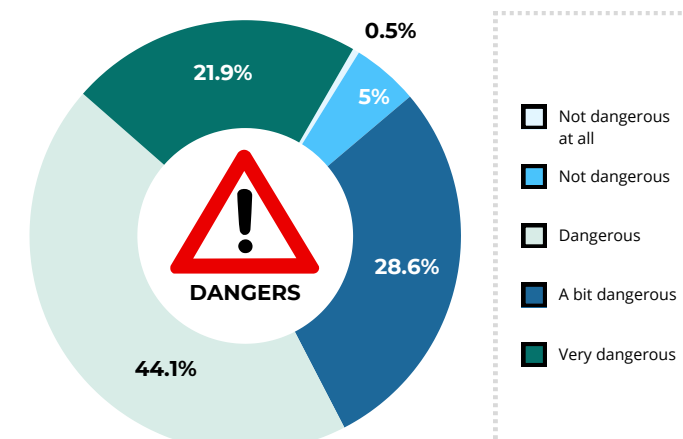


Question: How dangerous do you think RSV is for babies?

Table 6. Perceived Danger of RSV:

RESPONSE OPTION	N (%)
Not dangerous at all	5 (0.5)
Not dangerous	49 (5.0)
A bit dangerous	282 (28.6)
Dangerous	435 (44.1)
Very dangerous	216 (21.9)

Graph 3. Perceived Danger of RSV:



The majority of participants who knew a bit, quite a lot or a lot about RSV, believed that the risk of a baby catching RSV was a bit high, high or very high (85.2%) and that RSV was a bit dangerous, dangerous or very dangerous for babies (94.5%).



Most participants believed that the risk of a baby catching RSV was 'a bit high', 'high' or 'very high' (85.2%) and that RSV was 'a bit dangerous', 'dangerous' or 'very dangerous for babies' (94.5%).

C. IMMUNISATION PRODUCTS

In this section, participants (N=1576) were asked to rate their confidence in the safety of the **Monoclonal Antibody** for infants (Table 7) and their confidence in the protection against severe symptoms of RSV (Table 8). The response options ranged from 'not confident at all' to 'very confident'. Additionally, the data was analysed per country (Graph 4).



Question: How confident are you that an injection with antibodies against RSV...

...Is safe for babies?

...Offers babies good protection against severe symptoms of RSV?

Table 7. Confidence in Safety of the Monoclonal Antibody:

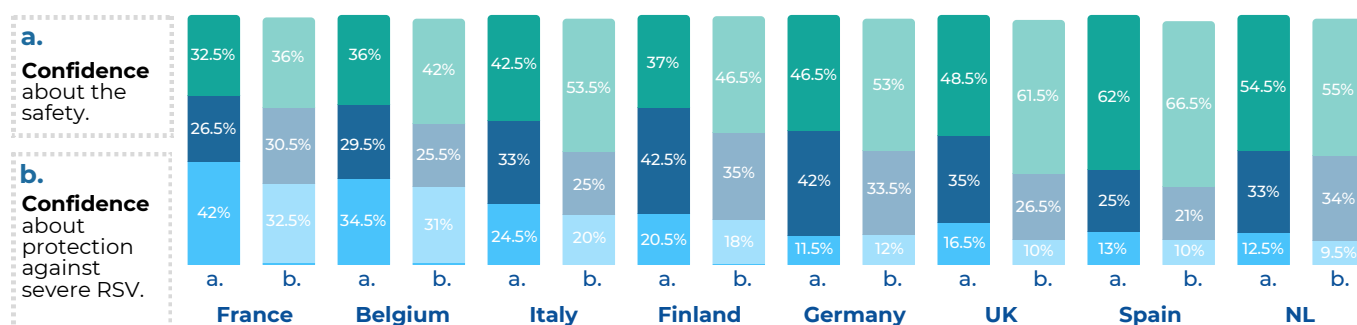
RESPONSE OPTION	N (%)
Not confident at all (1)	111 (6.9)
Not confident (2)	237 (14.8)
A bit confident (3)	533 (33.3)
Confident (4)	509 (31.8)
Very confident (5)	210 (13.1)

Table 8. Confidence in Protection of the Monoclonal Antibody:

RESPONSE OPTION	N (%)
Not confident at all (1)	111 (6.9)
Not confident (2)	175 (10.9)
A bit confident (3)	462 (28.9)
Confident (4)	464 (29.0)
Very confident (5)	364 (22.8)
I don't know	24 (1.5)

The results show that for the monoclonal antibody, (future) parents had more confidence in the protection offered by the product (44.9%) (measured on a scale from 1 to 5; mean=3.50, SD=1.17) than confidence in the safety (24.3%) for babies (mean=3.08, SD=1.07; p=0.329).

Graph 4. Confidence in Safety and Protection of the Monoclonal Antibody per Country:



As shown in Graph 4, the results indicate that confidence varied per country. For example, Spain (62% 'somewhat/ very' confident in safety and 66.5% 'somewhat/ very' confident in protection) and the NL (54.5% 'somewhat/ very' confident in safety and 55% 'somewhat/ very' confident in protection) showed higher levels of confidence, while Belgium (36% 'somewhat/ very' confident in safety and 42% 'somewhat/ very' confident in protection) and France (32.5% 'somewhat/ very' confident in safety and 36% 'somewhat/ very' confident in protection) demonstrated lower levels. In descending order, the ranking of confidence (response option 'somewhat/very'): Spain, the NL, the UK, Germany, Finland, Italy, Belgium and France.



For the Monoclonal Antibody, (future) parents were more confident in the protection (44.9%) than in the safety (24.3%) of the immunisation product for babies. Additionally, levels of confidence in both safety and protection varied based on country of residence.

C. IMMUNISATION PRODUCTS

In addition to confidence, participants (N=1576) were asked to rate their worry regarding the immediate side effects (Table 9) and long-term side effects (Table 10) of the **Monoclonal Antibody**. The response options ranged from 'not worried at all' to 'very worried'. Additionally, the data was analysed per country (Graph 5).



Question: Are you worried about...

...Side effects of an injection with antibodies against RSV?

...harmful effects of an injection with antibodies against RSV over a longer period of time?

Table 9. Worried about Immediate Side Effects of the Monoclonal Antibody:

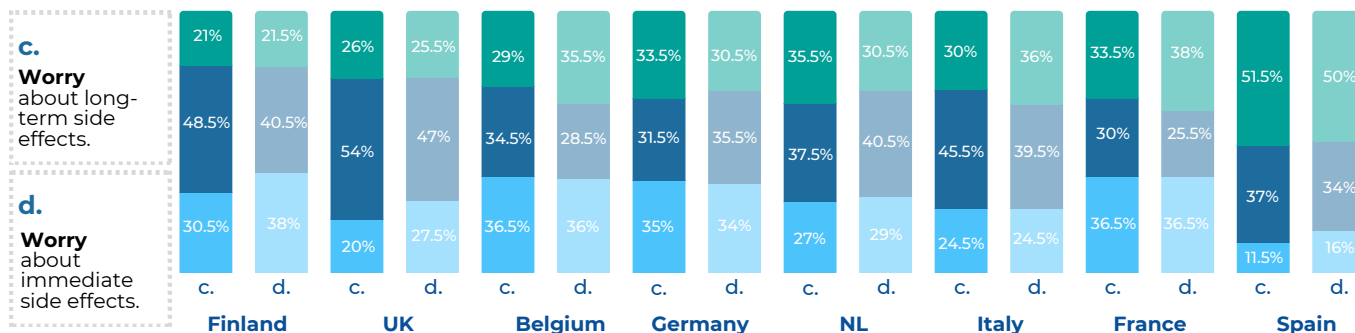
RESPONSE OPTION	N (%)
Not worried at all	98 (6.1)
Not worried	345 (21.6)
A bit worried	637 (39.8)
Worried	347 (21.7)
Very worried	173 (10.8)

Table 10. Worried about Long-Term Effects of the Monoclonal Antibody:

RESPONSE OPTION	N (%)
Not worried at all	102 (6.4)
Not worried	381 (23.8)
A bit worried	582 (36.4)
Worried	361 (22.6)
Very worried	174 (10.9)

The results in Table 9 and 10 show that there was no significant difference between the extent to which participants were worried about the immediate side effects (mean=3.10, SD=1.05) and the extent they were worried about long-term side effects mean=3.08, SD=1.07; p=0.329).

Graph 5. Worried about Immediate and Long-Term Side Effects per Country:



As shown in Graph 5, levels of worry about side effects varied per country, but is not statistically different. For example, for the option 'somewhat/very worried', highest levels were in Spain (51.5% were worried about long-term and 50% were worried about immediate side effects) and France (33.5% were worried about long-term and 38% were worried about immediate side effects). While lowest levels of worry were reported in the UK (26% were worried about long-term and 25.5% were worried about immediate side effects) and Finland (21% were worried about long-term and 21.5% were worried about immediate side effects).



There was no significant difference between the extent to which participants were worried about immediate side effects (32.5%) versus long-term side effects (33.5%). Additionally, levels of worry about side effects varied based on country of residence.

C. IMMUNISATION PRODUCTS

Lastly, we assessed what factors are associated with participants' willingness to give their baby the **Monoclonal Antibody** using a multinomial logistic regression model (N=1549; full model in **Appendix 1; Table 33**). The factors included in this model are level of knowledge, confidence in safety and protection, worried about immediate and long-term side effects, as well as individual-level characteristics (age, gender, education level) and country of residence. The key results of the model are depicted in **Figure 2**. As perceptions regarding RSV and willingness to give a baby the monoclonal antibody was only measured among participants who indicated to have 'a bit', 'quite a bit' or 'a lot' of knowledge of RSV, subgroup analysis was conducted among those participants. The multinomial logistic regression model (N=965; full model in **Appendix 2; Table 34**). In the questionnaire, participants answered the hypothetical question (response options: 'yes', 'no', 'I am not sure'). Responses to the question are summarised in **Table 11** and **Graph 6**.

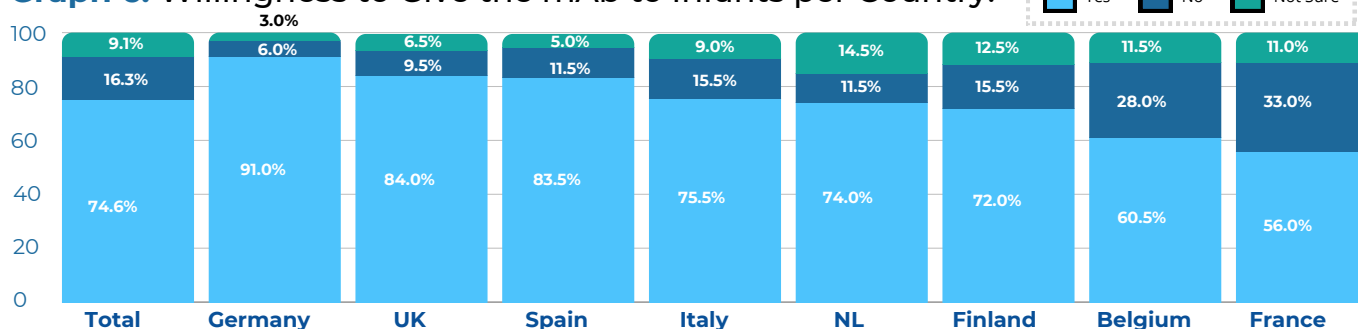


Question: If you were to have a baby, would you want him/her to get the monoclonal antibody against RSV if this was offered to you?

Table 11. Willingness to Give the Monoclonal Antibody to Infants per Country (N(%)):

RESPONSE OPTION	TOTAL (N=1600)	BELGIUM (N=200)	GERMANY (N=200)	FINLAND (N=200)	FRANCE (N=200)	ITALY (N=200)	SPAIN (N=200)	NL (N=200)	UK (N=200)
Yes	1193 (74.6)	121 (60.5)	182 (91.0)	144 (72.0)	112 (56.0)	151 (75.5)	167 (83.5)	148 (74.0)	168 (84.0)
No	261 (16.3)	56 (28.0)	12 (6.0)	31 (15.5)	66 (33.0)	31 (15.5)	23 (11.5)	23 (11.5)	19 (9.5)
Not Sure	146 (9.1)	23 (11.5)	6 (3.0)	25 (12.5)	22 (11.0)	18 (9.0)	10 (5.0)	29 (14.5)	13 (6.5)

Graph 6. Willingness to Give the mAb to Infants per Country:



Overall, **74.6%** of participants indicated that they would want to give their baby the mAb. Responses varied among countries, with highest percentage willing to give the mAb in **Germany (91%)** and lowest in **France (56.0%)**. Compared to Germany, participants from the NL, Belgium, Finland, and France were more likely to indicate that they would not want to give the mAb or that they had doubts about giving the mAb to their infant.

Figure 2. Factors Influencing Willingness to Give Monoclonal Antibody:

Parents were more likely to give their baby the monoclonal antibody **if** they:



Have **more knowledge** about RSV.



Are **more confident** about the **safety** and **effectiveness** of the antibody.



Are **less worried** about the **immediate** and **long-term side effects**.



Parents were more willing to give their baby the **Monoclonal Antibody** if:

- They had higher knowledge about RSV;
- Had more confidence in the product's safety and effectiveness and;
- Were they less worried about immediate and long-term harmful effects.

C. IMMUNISATION PRODUCTS

In this section, participants' were asked about their perceptions of immunisation with **Maternal Vaccination**. Specifically regarding their confidence in safety (**N=1600; Table 12**) (response options ranged from 'not safe at all' to 'very safe') and protection (**N=800; Table 13**) (response options ranged from 'not confident at all' to 'very confident' and 'i don't know') of the immunisation product. Additionally, the data was analysed per country, however, no significant differences were found between countries (data not shown).



Question: How confident are you that a vaccine against RSV during pregnancy is safe for...

Table 12. Confidence in Safety of the Maternal Vaccination:

RESPONSE OPTION	...Baby in the Womb N (%)	...Pregnant Woman N (%)
Not safe at all	207 (12.9)	165 (10.3)
Not safe	255 (15.9)	231 (14.4)
A bit safe	499 (31.2)	505 (31.6)
Safe	456 (28.5)	490 (30.6)
Very safe	183 (11.4)	209 (13.1)

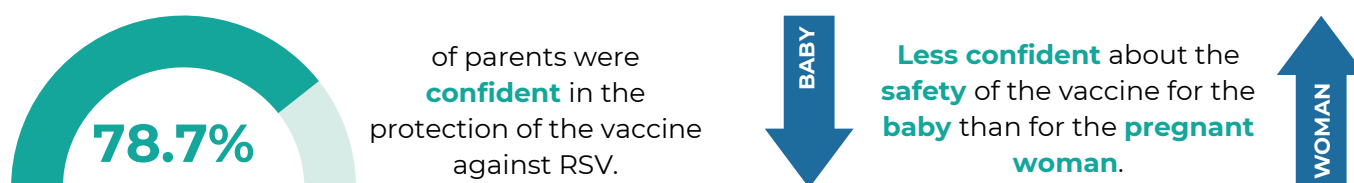


Question: How confident are you that a vaccine against RSV offers good protection against severe symptoms of RSV?

Table 13. Confidence in Protection of the Maternal Vaccination:

RESPONSE OPTION	N (%)
Not confident at all	97 (6.1)
Not confident	250 (15.6)
A bit confident	556 (34.8)
Confident	450 (28.1)
Very confident	223 (13.9)
I don't know	24 (1.5)

Figure 3. Confidence in Safety and Protection of the Maternal Vaccination:



Overall, the majority of (future) parents (**78.7%**) selected that they were 'a bit confident', 'confident' or 'very confident' about the protection of the maternal vaccine against RSV. When comparing confidence regarding safety for the baby in the womb versus the pregnant woman, overall participants were slightly less confident about the safety of the vaccine for the baby in the womb (mean=3.10, SD=1.19) (**71.1%**) compared to the safety for the pregnant woman (mean=3.10, SD=1.13, p<0.001) (**75.3%**).



Overall, the majority of (future) parents (78.7%) were confident about the protection of the Maternal Vaccination against RSV. However, participants were slightly more confident about the safety for the pregnant woman (75.3%) versus the baby in the womb (71.1%).

C. IMMUNISATION PRODUCTS

In addition to confidence about safety and protection, participants (N=1600) were asked to rate their worry about the side effects of the **Maternal Vaccination**. Specifically regarding their worry in immediate side effects (Table 14) and long-term side effects (Table 15) and are compared in Graph 7. The response options ranged from 'not worried at all' to 'very worried' of the immunisation product. Additionally, the data was analysed per country, however, no significant differences were found between countries (data not shown).



Question: Would you be worried about immediate side effects of a vaccine against RSV during pregnancy for...

Table 14. Worried about Immediate Side Effects of the Maternal Vaccination:

RESPONSE OPTION	...Baby in the Womb N (%)	...Pregnant Woman N (%)
Not worried at all	146 (9.1)	141 (8.8)
Not worried	268 (16.8)	320 (20.0)
A bit worried	566 (35.4)	586 (36.6)
Worried	381 (23.8)	344 (21.5)
Very worried	239 (14.3)	209 (13.1)

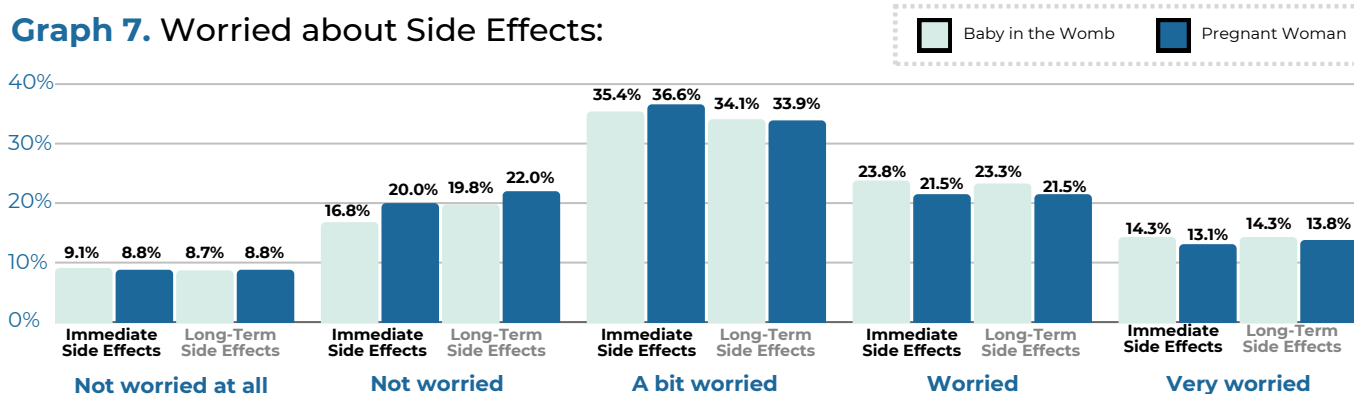


Question: Would you be worried about long-term side effects of a vaccine against RSV during pregnancy for...

Table 15. Worried about Long-Term Side Effects of the Maternal Vaccination:

RESPONSE OPTION	...Baby in the Womb N (%)	...Pregnant Woman N (%)
Not worried at all	139 (8.7)	141 (8.8)
Not worried	316 (19.8)	352 (22.0)
A bit worried	545 (34.1)	542 (33.9)
Worried	371 (23.3)	344 (21.5)
Very worried	228 (14.3)	221 (13.8)

Graph 7. Worried about Side Effects:



Overall, the results showed that (future) parents were more worried about immediate and long-term side effects of the vaccine for the baby than for the pregnant woman.



For the Maternal Vaccination, (future) parents have variable levels of worry regarding the side effects for both the baby in the womb and the pregnant woman. Overall, parents were more worried about the side effects for the baby than for the pregnant woman.

C. IMMUNISATION PRODUCTS

Lastly, we assessed what factors are associated with participants' willingness to get the **Maternal Vaccination** during pregnancy using a multinomial logistic regression model (N=1547; full model in **Appendix 3; Table 35**). The factors included in this model are level of knowledge, confidence in safety and protection, worried about immediate and long-term side effects, as well as individual-level characteristics (age, gender, education level) and country of residence. The key results of the model are depicted in **Figure 4**. As perceptions regarding RSV and willingness to get the maternal vaccination during pregnancy was only measured among participants who indicated to have 'a bit', 'quite a bit' or 'a lot' of knowledge of RSV, subgroup analysis was conducted among those participants. The multinomial logistic regression model (N=966; full model in **Appendix 4; Table 36**). In the questionnaire, participants' answered the hypothetical question (response options: 'yes', 'no', 'I am not sure'). Responses to the question are summarised in **Table 16** and **Graph 8**.

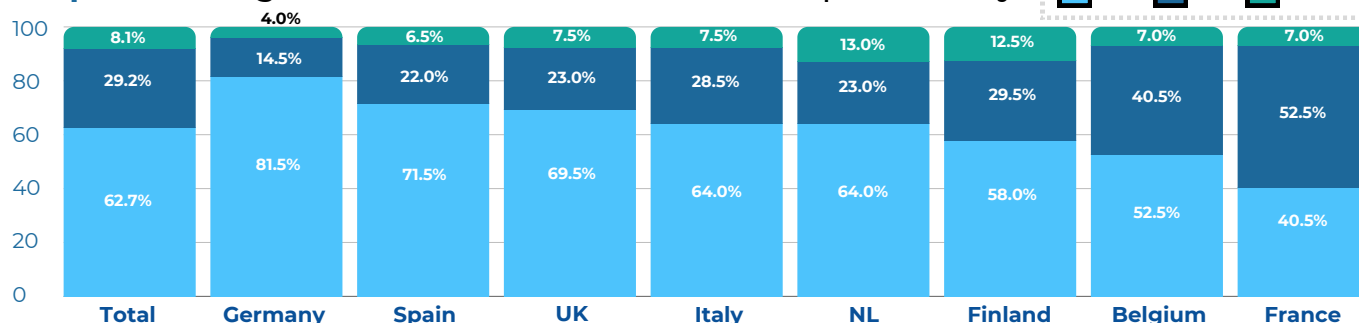


Question: If you were pregnant, or your partner was pregnant, would you or your partner want a vaccine against RSV during pregnancy if this was offered?

Table 16. Willingness to Get the Maternal Vaccination per Country (N(%)):

RESPONSE OPTION	TOTAL (N=1600)	BELGIUM (N=200)	GERMANY (N=200)	FINLAND (N=200)	FRANCE (N=200)	ITALY (N=200)	SPAIN (N=200)	NL (N=200)	UK (N=200)
Yes	1003 (62.7)	105 (52.5)	163 (81.5)	116 (58.0)	81 (40.5)	128 (64.0)	143 (71.5)	128 (64.0)	139 (69.5)
No	467 (29.2)	81 (40.5)	29 (14.5)	59 (29.5)	105 (52.5)	57 (28.5)	44 (22.0)	46 (23.0)	46 (23.0)
Not Sure	130 (8.1)	14 (7.0)	8 (4.0)	25 (12.5)	14 (7.0)	15 (7.5)	13 (6.5)	26 (13.0)	15 (7.5)

Graph 8. Willingness to Get the Maternal Vaccine per Country:



Overall, **62.7%** of the participants indicated that they would want the maternal vaccination. Responses varied among countries, with highest percentage willing to get the vaccination in **Germany (81.5%)** and lowest in **France (40.5%)**. Notably, **52.5%** of participants from **France** indicated they would not get the vaccine.

Figure 4. Parents were More Likely to Get the Maternal Vaccination **if** They:



Have **more knowledge** about RSV.



Are **more confident** about the **safety** and **protection** for the **baby** in the womb and the **pregnant woman**.



Are **less worried** about the **immediate** and **long-term** side effects.

Participants who were more worried about side-effects and long-term effects for the baby were more likely to indicate that they had doubts about vaccination as opposed to indicating they would want the vaccination. Parents who perceived RSV as more dangerous for a baby, were more likely to want the vaccine.



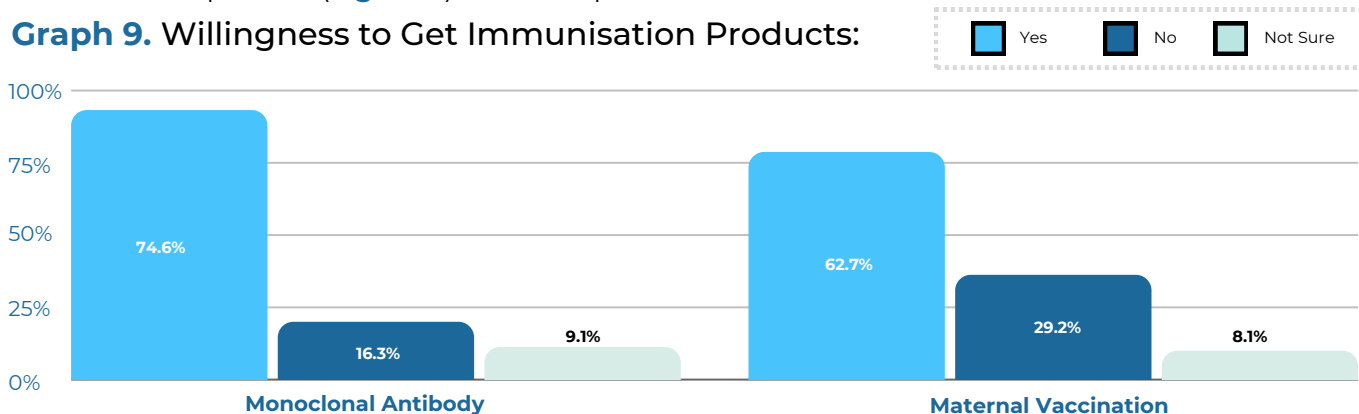
Participants were more likely to want the Maternal Vaccination if:

- They had higher knowledge about RSV;
- Had more confidence in the product's safety and effectiveness and;
- Were they less worried about immediate and long-term harmful effects.

C. IMMUNISATION PRODUCTS

The perceptions of the **Monoclonal Antibody** and the **Maternal Vaccination** were compared regarding the (1) willingness to get the immunisation product (**Graph 9**). For participants who indicated that they were 'not sure' about whether they would want to get the antibody or vaccine, filled out an open ended text to list reasons why (**Figure 5**). Additionally, the (2) importance of the availability of the immunisation product (**Table 17**); and (3) the confidence in and worries about the immunisation product (**Figure 6**) were compared.

Graph 9. Willingness to Get Immunisation Products:



Across all countries, participants were more likely to indicate that they would want to give their baby the Monoclonal Antibody (Y: **74.6%**) compared to wanting to get the Maternal Vaccination (Y: **62.7%**).

Figure 5. Reasons to Hesitate with Monoclonal Antibody or Vaccination:

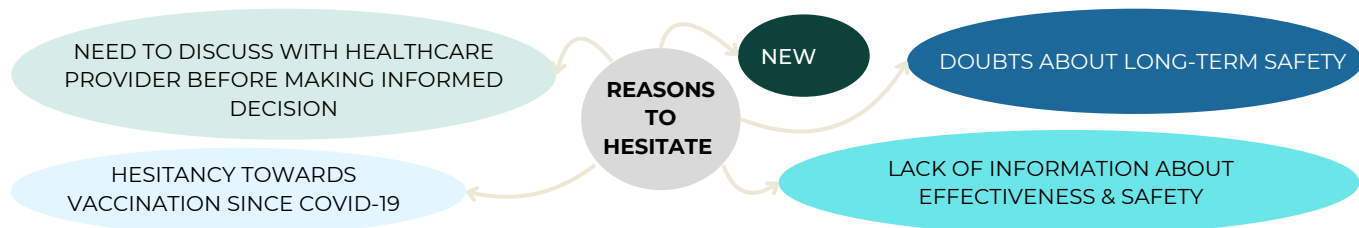
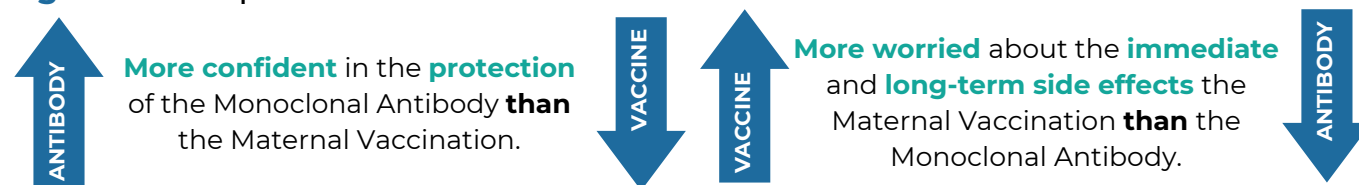


Table 17. Importance of Availability of Products:

RESPONSE OPTION	MONOCLONAL ANTIBODY N (%)	MATERNAL VACCINATION N (%)
Not important at all	69 (4.3)	79 (4.9)
Not important	157 (9.8)	164 (10.3)
A bit important	492 (30.8)	592 (37.1)
Important	572 (35.8)	553 (34.6)
Very important	310 (19.4)	211 (13.2)

Participants rated the importance of the **Monoclonal Antibody** to become available higher than the importance of the **Maternal Vaccination** becoming available. It is important to note that the difference is *small*.

Figure 6. Comparison in Confidence in and Worries About Products:



It is important to note, that when comparing the results for Monoclonal Antibody and Maternal Vaccination that the difference in preference is **small**.

- 1. Parents were more likely to give their baby the Monoclonal Antibody.
- 2. Parents found the availability of the Monoclonal Antibody more important.
- 3. Parents were more confidence in the protection and less worried about the side of effects of the Monoclonal Antibody.

D. NEEDS IN DECISION MAKING

Participants were asked to imagine that they needed to decide about immunisation products against RSV for their baby and to indicate what they would need to make a decision. Factors that influence participants decision making are shown in **Table 18**; (mean (SD); scale 1='not at all important' to 5='very important') and the most important factors are highlighted in **Figure 7**. Participants were asked the hypothetical question:



Question: Imagine that you need to decide about protective injections against RSV for your baby (an injection of antibodies given after birth, or a vaccination during the pregnancy). How important is it to you...

Table 18. Needs in Decision Making:

Higher Importance Medium Importance Lower Importance

SUB-QUESTIONS	TOTAL (N=1600) M (SD)	BELGIUM (N=200) M (SD)	GERMANY (N=200) M (SD)	FINLAND (N=200) M (SD)	FRANCE (N=200) M (SD)	ITALY (N=200) M (SD)	SPAIN (N=200) M (SD)	NL (N=200) M (SD)	UK (N=200) M (SD)
...that you can find or receive reliable information about RSV	3.90 (1.16) ^{d e}	3.46 (1.45)	4.05 (.94) ^{b e}	4.03 (1.10) ^d	3.65 (1.41) ^d	3.58 (1.40) ^d	4.07 (1.00)	4.07 (1.03) ^d	3.96 (1.05)
...that you can find or receive reliable information about the protective injections against RSV	3.94 (1.09) ^{d e}	3.57 (1.24) ^d	3.86 (.90)	4.11 (1.04) ^{c d}	3.75 (1.33) ^d	3.96 (1.07)	4.02 (1.06)	4.18 (.94) ^{a c d e}	4.06 (.94)
...that your healthcare provider (e.g. GP or midwife) discusses the protective injections against RSV with you	3.92 (1.12) ^{d e}	3.55 (1.35) ^d	4.01 (.94) ^{b e}	3.96 (1.01) ^d	3.75 (1.33) ^d	4.01 (1.04) ^{d e}	4.06 (1.02)	3.99 (1.02) ^d	4.12 (.93) ^{a d}
...that the government provides recommendations about the protective injections against RSV	3.69 (1.16)	3.27 (1.25)	3.97 (.93)	3.52 (1.24)	3.30 (1.39)	3.84 (1.06)	3.96 (1.07)	3.74 (1.05)	3.94 (.99)
...that the protective injections against RSV are free	3.83 (1.13) ^d	3.48 (1.25)	3.80 (.90)	3.98 (1.04) ^d	3.58 (1.40) ^d	3.86 (1.07)	4.02 (1.08)	3.90 (1.12)	4.02 (.96)

a. Significantly higher than the option "that you can find or receive reliable information about RSV," p < .01 or p < .001;
 b. Significantly higher than the option "that you can find or receive reliable information about the protective injections against RSV," p < .01 or p < .001;
 c. Significantly higher than the option "that your healthcare provider (e.g. GP or midwife) discusses the protective injections against RSV with you," p < .01;
 d. Significantly higher than the option "that the government provides recommendations about the protective injections against RSV," p < .01 or p < .001;
 e. Significantly higher than the option "that the protective injections against RSV are free," p < .01 or p < .001.

Figure 7. Most Important Factors in Decision Making:



RELIABLE INFORMATION



DISCUSSING THE IMMUNISATION PRODUCTS WITH A HEALTHCARE PROVIDER



FREE IMMUNISATION

Participants indicated needing reliable information about RSV and the immunisation products as most important. Whether the government provides recommendations about the immunisation products was generally perceived as less important than being able to find or receive reliable information about (immunisation products for) RSV, discussing the immunisation products with a healthcare provider, and the immunisation products being free.



Participant indicated the most important factors in decision making were:

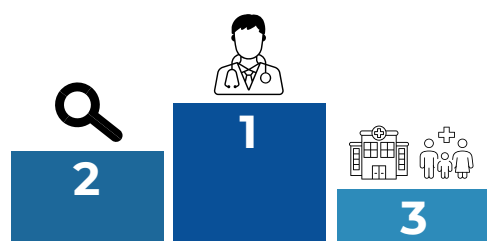
- 1. Access to reliable information;**
- 2. Ability to discuss the immunisation options with a healthcare provider and;**
- 3. Access to free immunisation products.**

D. NEEDS IN DECISION MAKING

Additionally, questions were asked to understand where (future) parents currently retrieve information about RSV (Table 19) and to pinpoint the sources they wish to receive information from in the future (Table 20).

Table 19. Current Sources of Information per Country:

	Belgium	Finland	France	Germany	Italy	Spain	NL	UK
1st Choice	GP	Google	GP	Hospital	Child Clinic	GP	Family / Friends	GP
2nd Choice	Hospital	Child Clinic	Hospital	Midwife	GP	Child Clinic	Google	Google
3rd Choice	Google	Medical Website	Midwife	OBGYN	OBGYN	Google	GP	Family / Friends



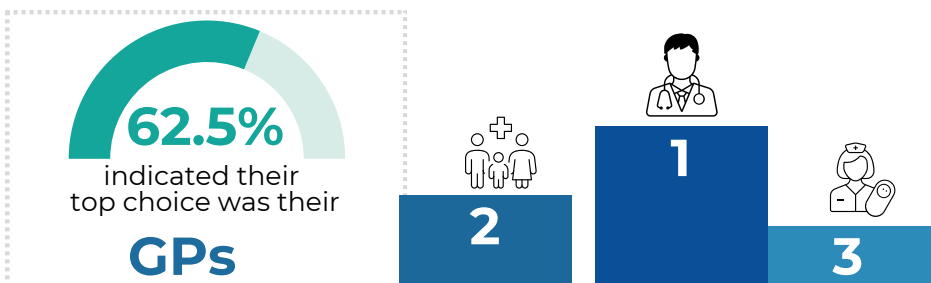
GPs are the **most trusted** source of information across all countries.

The majority of parents receive information regarding RSV from their **GP, Google, Hospital** and from **Child Clinics**. With GPs being the most trusted source of information across all countries.

Table 20. Preferred Sources of Information per Country:

	Belgium	Finland	France	Germany	Italy	Spain	NL	UK
1st Choice	GP	Child Clinic	GP	GP	Child Clinic	GP	Midwife	GP
2nd Choice	Child Clinic	GP	Midwife	OBGYN	GP	Child Clinic	GP	Midwife
3rd Choice	Midwife	Gov	OBGYN	Midwife	OBGYN	Gov	Child Clinic	Child Clinic

When asked which sources they would like receive information about RSV and immunisation products in the future, **GP, Child Clinic** and **Midwives** were the top three choices.



GPs are the most trusted source of information across all countries. When asked where parents would like to receive information GPs were their top choice followed by Child Clinics and Midwives.

RESULTS

OLDER ADULTS



A. KNOWLEDGE ABOUT RSV

First, we aimed to understand the self-reported levels of knowledge about RSV among older adults based on country of residence (N=800; Table 21 and Graph 10). The responses are categorised into levels of knowledge, ranging from 'nothing at all', 'almost nothing', 'a bit' to 'quite a bit' and 'a lot'.

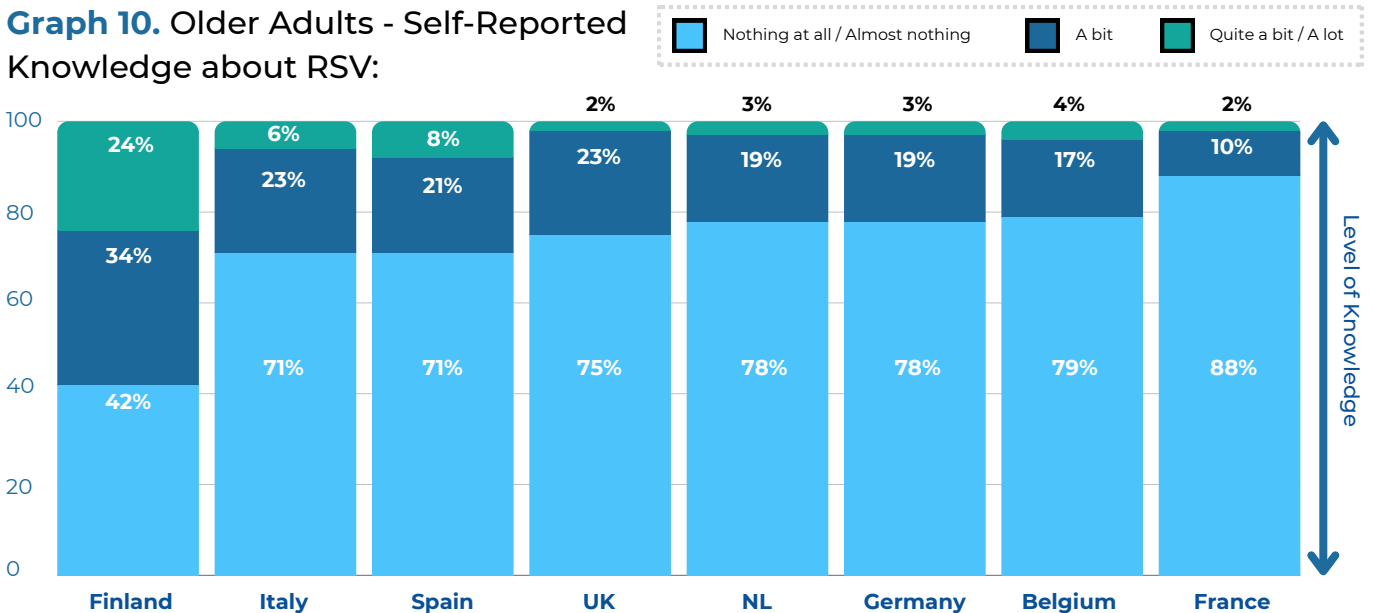


Question: How much do you know about RSV?

Table 21. Self-Reported Knowledge about RSV (N(%)):

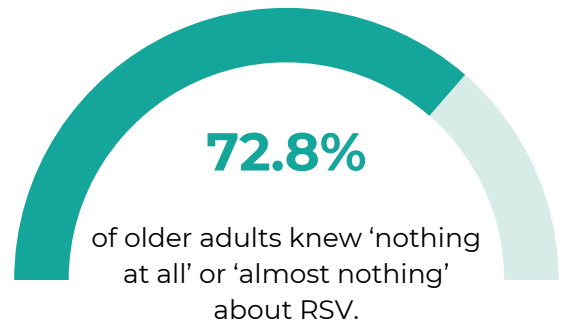
RESPONSE OPTION	TOTAL (N=800)	BELGIUM (N=100)	GERMANY (N=100)	FINLAND (N=100)	FRANCE (N=100)	ITALY (N=100)	SPAIN (N=100)	NL (N=100)	UK (N=100)
Nothing at all	280 (35.0)	40 (40.0)	54 (54.0)	8 (8.0)	55 (55.0)	21 (21.0)	31 (31.0)	28 (28.0)	43 (43.0)
Almost nothing	302 (37.8)	39 (39.0)	24 (24.0)	34 (34.0)	33 (33.0)	50 (50.0)	40 (40.0)	50 (50.0)	32 (32.0)
A bit	166 (20.8)	17 (17.0)	19 (19.0)	34 (34.0)	10 (10.0)	23 (23.0)	21 (21.0)	19 (19.0)	23 (23.0)
Quite a bit	46 (5.8)	4 (4.0)	2 (2.0)	22 (22.0)	2 (2.0)	4 (4.0)	8 (8.0)	3 (3.0)	1 (1.0)
A lot	6 (0.8)	0 (0.0)	1 (1.0)	2 (2.0)	0 (0.0)	2 (2.0)	0 (0.0)	0 (0.0)	1 (1.0)

Graph 10. Older Adults - Self-Reported Knowledge about RSV:



The majority of older adults indicated to know 'nothing at all' or 'almost nothing' about RSV (72.8%).

Overall about 1 out of 4 older adults had 'a bit', 'quite a bit' or 'a lot' self-reported knowledge about RSV. Based on the results, self-reported knowledge levels differed between country. For example, knowledge was reported lowest in France (88% 'nothing at all/ almost nothing' and only 2% 'quite a bit / a lot') and highest in Finland (42% 'nothing at all/ almost nothing' and 24% 'quite a bit/ a lot'). In ascending order, the ranking is: France, Germany, UK, Belgium, Netherlands, Spain, Italy, Finland.



The results showed that overall the majority of older adults (72.8%) indicated to know 'nothing at all' or 'almost nothing' about RSV. Additionally, country of residence was associated with self-reported knowledge of RSV.

A. KNOWLEDGE ABOUT RSV

Additionally, to assess which background and individual-level characteristics are associated with self-reported RSV knowledge levels a multilevel analysis was conducted. The first model (Table 21; pg 29), only including country-level variation, indicated a significant fit ($\chi^2(1) = 83.04, p < .001$). The second model ($\chi^2(4) = 11.54, p < .05$), in which individual-level predictors were added (N=797; Table 22 and Figure 8).



Question: How much do you know about RSV?

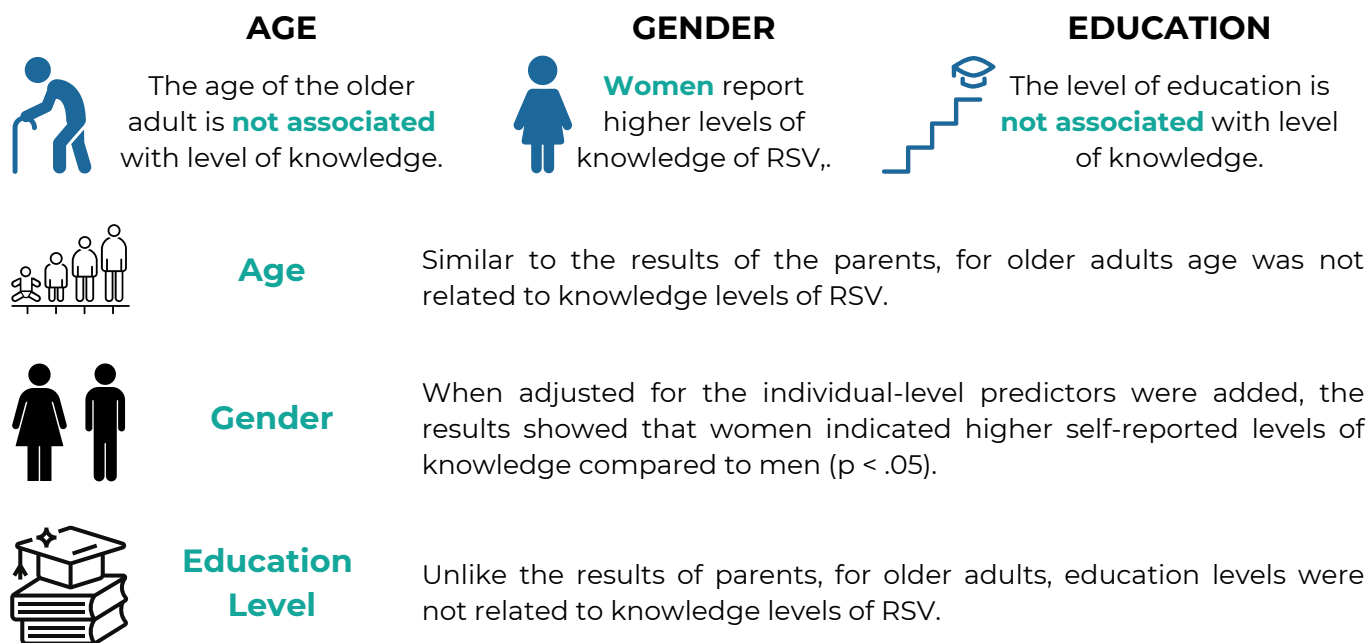
Table 22. Associations between Background Characteristics and Knowledge:

MODEL	VARIABLE	COEFFICIENT (95% CI)	SD	P-VALUE
LEVEL 1	Intercept	2.00 (1.76, 2.23)	0.12	0.000
	Age	-0.01 (-0.02, 0.00)	0.01	0.075
LEVEL 2	Female Gender	0.13 (0.01, 0.25)	0.06	0.037
	Education Level*			
	Medium	0.11 (-0.04, 0.26)	0.16	0.160
	High	0.14 (-0.01, 0.29)	0.07	0.073
	Intercept	2.52 (1.73, 3.32)	0.00	0.000

*The education levels are defined as:

Low	<ul style="list-style-type: none"> No formal education, primary education, lower or preparatory professional education, middle-level secondary education
Medium	<ul style="list-style-type: none"> Middle-level applied education, selective secondary education
High	<ul style="list-style-type: none"> Tertiary professional education or university

Figure 8. Associations between Background Characteristics and Knowledge:



1. Age and education levels were not related to knowledge levels for older adults.
2. Women indicated higher self-reported levels of knowledge compared to men.

B. PERCEPTIONS ABOUT RSV

Next, participants (N=218) were asked to rate (from 'not high at all' to 'very high') the level of perceived risks (Table 23; Graph 11); and the level of perceived danger (Table 24; Graph 12) from 'not dangerous at all' to 'very dangerous'. The results shown are the mean of all countries as results were similar across all countries.

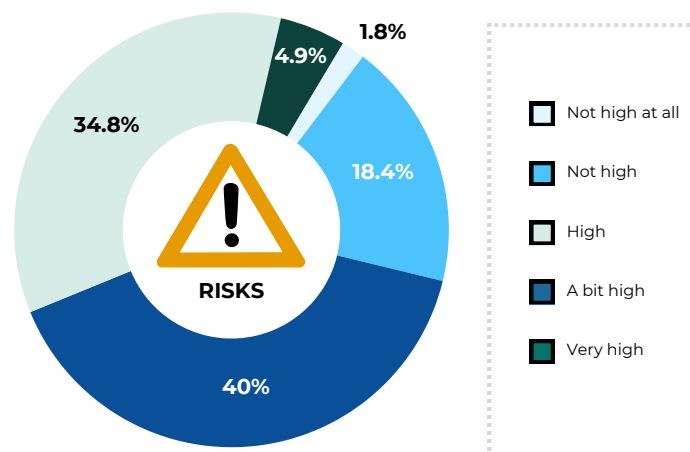


Question: How high do you think the risk is of an adult aged 60 years or older catching RSV?

Table 23. Perceived Risk of RSV:

RESPONSE OPTION	N (%)
Not high at all	4 (1.8)
Not high	41 (18.8)
A bit high	89 (40.8)
High	73 (33.5)
Very high	11 (5.0)

Graph 11. Perceived Risk of RSV:



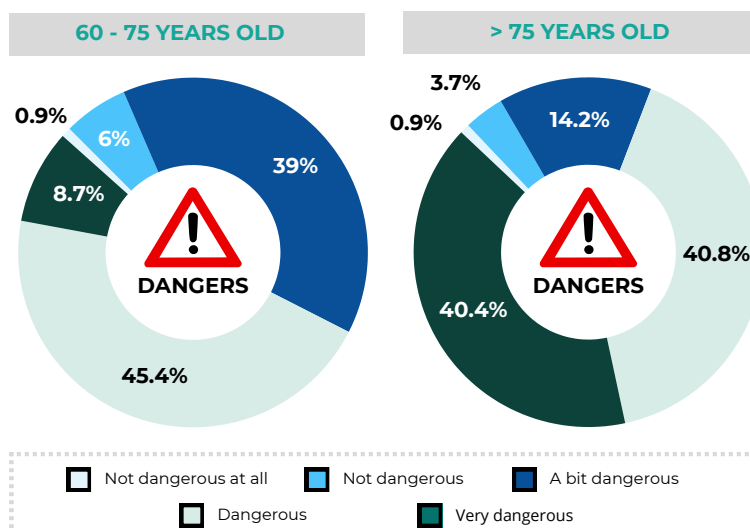
The majority (79.7%) of participants found the risk of catching RSV high (sum of 'high, 'a bit high' and 'very high') and 20.2% of participants did not find the risk high ('not high at all' or 'not high').



Question: How dangerous do you think RSV is for older adults aged...

Table 24. Perceived Danger of RSV: **Graph 12.** Perceived Danger of RSV:

RESPONSE OPTION	...60 to 75 Years Old? (N (%))	...75 Years & Older (N (%))
Not dangerous at all	2 (0.9)	2 (0.9)
Not dangerous	13 (6.0)	8 (3.7)
A bit dangerous	85 (39.0)	31 (14.2)
Dangerous	99 (45.4)	89 (40.8)
Very dangerous	19 (8.7)	88 (40.4)



The majority (79.7%) of participants found the risk of catching RSV high (sum of 'high, 'a bit high' and 'very high'). Participants indicated RSV to be more dangerous for adults aged ≥75 years than for adults aged 60 to 75 years old.

C. IMMUNISATION PRODUCTS

In this section, participants' (N=800) were asked to rate their confidence in the safety of the **RSV Vaccination (Table 25)** and their confidence in the protection against severe symptoms of RSV (**Table 26**) and the compared in **Figure 9**. The response options ranged from 'not confident at all' to 'very confident'. Additionally, the data was analysed per country (**Graph 13**).



Question: Confidence in safety and protection against severe symptoms of RSV of the vaccine?

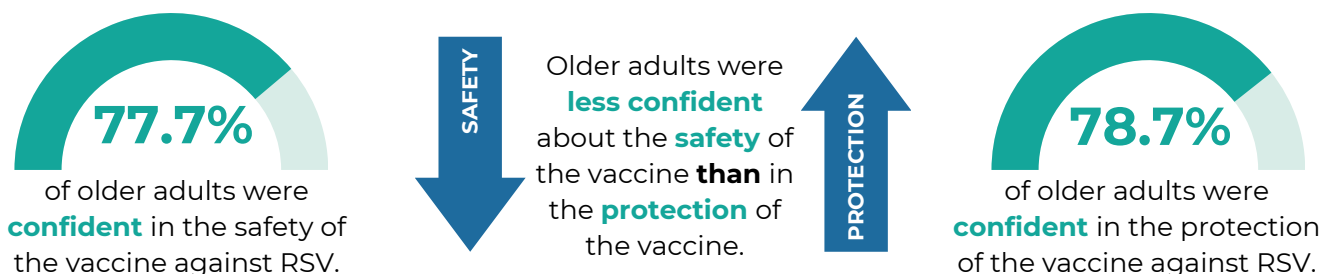
Table 25. Confidence in Safety:

RESPONSE OPTION	N (%)
Not confident at all	61 (7.6)
Not confident	118 (14.8)
A bit confident	235 (29.4)
Confident	271 (33.9)
Very Confident	115 (14.4)

Table 26. Confidence in Protection:

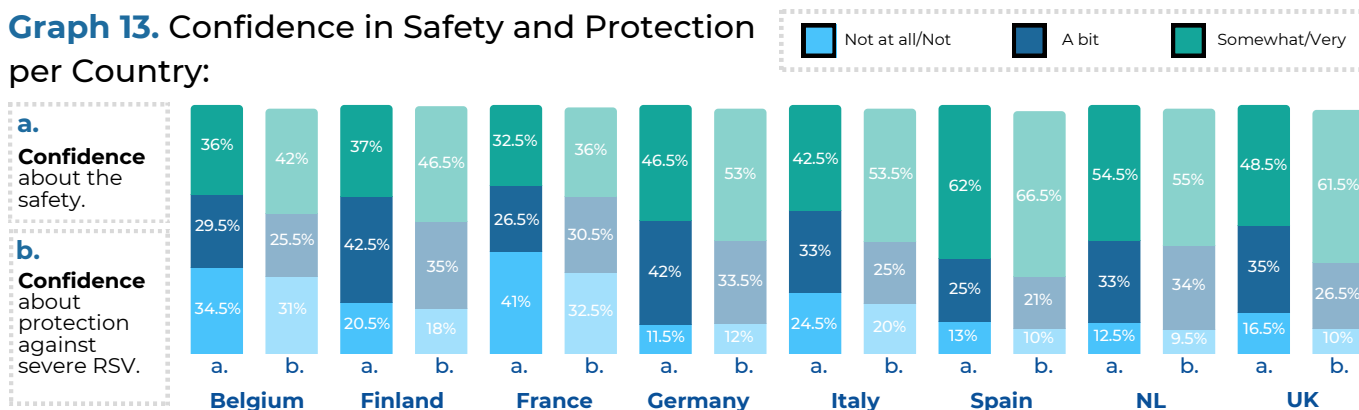
RESPONSE OPTION	N (%)
Not confident at all	47 (5.9)
Not confident	102 (12.8)
A bit confident	219 (27.4)
Confident	263 (32.9)
Very Confident	147 (18.4)

Figure 9. Confidence in Safety and Protection of the Vaccination:



Overall, the majority of participants were confident ('a bit confident', 'confident' and 'very confident') in the safety and protection of the vaccine against RSV. However, older adults were slightly more confident in the protection (**78.7%**) than in the safety (**77.7%**) of the vaccine.

Graph 13. Confidence in Safety and Protection per Country:



Results indicate that **Spain (62%: confidence in safety and 66.5% confidence in protection)** and the **NL (54.5% confidence in safety and 55% confidence in protection)** showed higher levels of confidence, while **Belgium (36% confidence in safety and 42% confidence in protection)** and **France (32.5% confidence in safety and 36% confidence in protection)** demonstrated lower levels.



Overall, the majority of participants were confident in the safety and protection of the vaccine against RSV. However, older adults were slightly more confident in the protection (78.7%) than in the safety (77.7%) of the vaccine.

C. IMMUNISATION PRODUCTS

Lastly, participants (N=800) were asked to rate their worry about immediate and long-term side effects (Table 27, Graph 14 and Figure 10). In addition, older adults were asked to rate the importance that a vaccine becomes available (Table 28).

Table 27. Worried about Immediate and Long-Term Side Effects:

RESPONSE OPTION	IMMEDIATE SIDE-EFFECTS (N (%))	LONG-TERM SIDE EFFECTS (N (%))
Not worried at all	85 (10.6)	91 (11.4)
Not worried	217 (27.1)	219 (27.4)
A bit worried	312 (39.0)	307 (38.4)
Worried	127 (15.9)	124 (15.5)
Very worried	59 (7.4)	59 (7.4)

Graph 14. Worried about Side Effects:

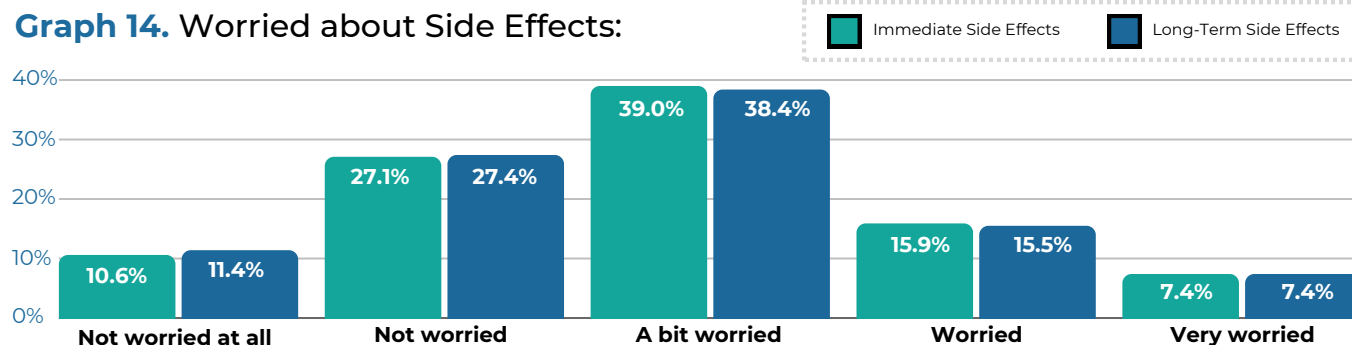
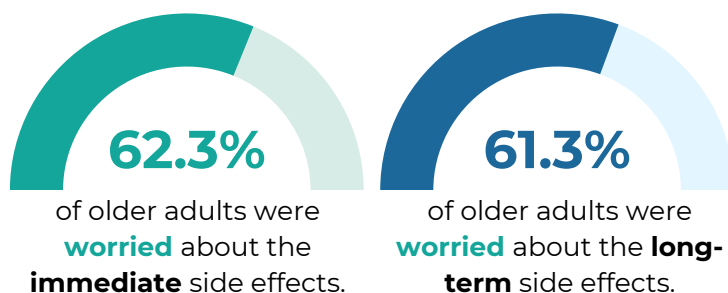


Figure 10. Worried about Side Effects:



There was no significant difference in the extent to which participants were worried about immediate side-effects (mean=2.82, SD=.04) versus long-term effects (mean=2.90, SD=.04; p=.284). However, 62.3% of older adults expressed worries about the immediate side effects and 61.3% expressed worries about the long-term side effects of the RSV vaccine.



Question: How important do you think it is that a vaccine against RSV becomes available for adults aged 60 years or older?

Table 28. Importance of Availability of Vaccine:

RESPONSE OPTION	N (%)
Not important at all	30 (3.8)
Not important	58 (7.3)
A bit important	244 (30.5)
Important	295 (36.9)
Very important	173 (21.6)

Overall, the majority of participants (89% indicated it to be 'a bit important', 'important', or 'very important') found it important that a vaccine for RSV becomes available for older adults. About 11% of participants did not find it important for a vaccine to become available.



There were no significant difference in older adults concerns about immediate side effects versus long-term effects, however, about 60% expressed worries about the side effects. Additionally, the majority of participants (89%) found it important that a vaccine becomes available.

C. IMMUNISATION PRODUCTS

Lastly, we assessed what factors are associated with participants' willingness to get vaccinated using a multinomial logistic regression model (N=775; X2 = 452.35; p<0.001; pseudo R2=0.3181) (Table 29; Appendix 5-Table 37 and Figure 11. Additionally, participants who indicated that they were 'not sure' about whether they would want to get the vaccine, filled out an open ended text to list reasons why (Figure 12). Participants' answered the hypothetical question:

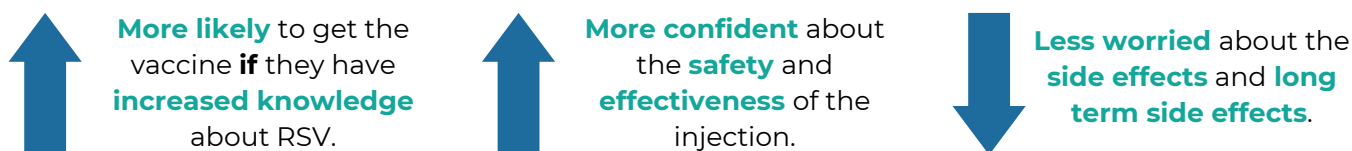


Question: Would you have a vaccine against RSV if it was offered to you?

Table 29. Willingness to Get the Vaccine:

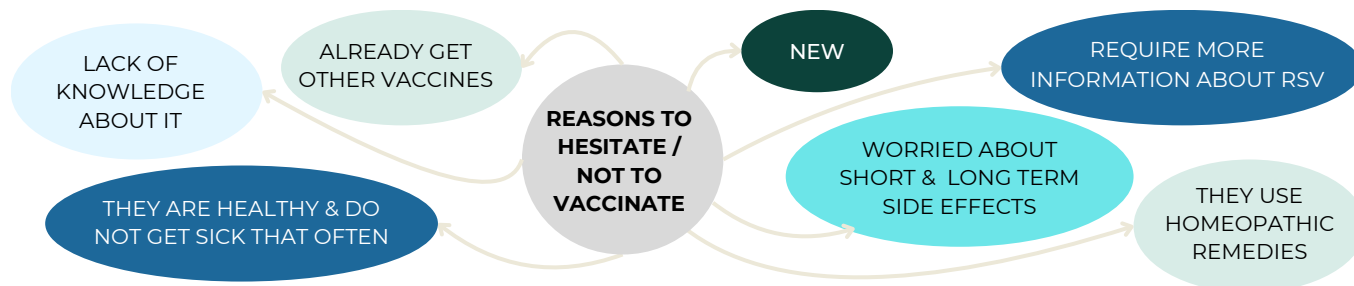
RESPONSE OPTION	TOTAL (N=800)	BELGIUM (N=100)	GERMANY (N=100)	FINLAND (N=100)	FRANCE (N=100)	ITALY (N=100)	SPAIN (N=100)	NL (N=100)	UK (N=100)
Yes	492 (61.5)	56 (56.0)	53 (53.0)	72 (72.0)	34 (34.0)	57 (57.0)	71 (71.0)	73 (73.0)	76 (76.0)
No	196 (24.5)	28 (28.0)	31 (31.0)	16 (16.0)	49 (49.0)	28 (28.0)	15 (15.0)	14 (14.0)	15 (15.0)
Not sure	112 (14.0)	16 (16.0)	16 (16.0)	12 (12.0)	17 (17.0)	15 (15.0)	14 (14.0)	13 (13.0)	9 (9.0)

Figure 11. Willingness to Get the Vaccine if:



The results of the model show that older adults were more likely to indicate that they would want the vaccine if they had more confidence in the safety and protection of the vaccine, and were less worried about side effects. Additionally, country of residence was also associated with willingness to get the vaccine. Older adults from the **UK** had reported the highest willingness to get the vaccine. Compared to the **UK**, participants from **Belgium** and **France** were more likely to indicate that they would not want the vaccine.

Figure 12. Reasons to Hesitate with Vaccination or Not to Vaccinate:



Participants were hesitate for various reasons, frequently relating to the vaccine being new and not having enough knowledge about it. They would need more information about RSV and/or vaccines, or that they found it important to first discuss it with their doctor. Multiple participants indicated having concerns about side-effects, or being worried that long-term effects are not known yet as the vaccine is new. Some participants indicated that they would not want the vaccine as they are healthy and do not get sick frequently, believing they would not need the vaccine. Others indicated that they already get many other vaccines. One person indicated preference for homeopathic remedies.



Older adults were more likely to indicate that they would want the vaccine if they had more confidence in the safety and protection of the vaccine, and were less worried about side effects.

D. NEEDS IN DECISION MAKING

Participants were asked to imagine that they needed to decide about immunisation products against RSV for them and to indicate what they would need to make a decision. Factors that influence participants decision making are shown in **Table 30**; (mean (SD); scale 1='not at all important' to 5='very important') and the most important factors are highlighted in **Figure 13**. Participants were asked the hypothetical question:



Question: Imagine that you need to decide about immunisation products against RSV for you. How important is it to you...

Table 30. Needs in Decision Making:

Higher Importance
 Lower Importance
 Medium Importance

SUB-QUESTIONS	TOTAL (N=1600) M (SD)	BELGIUM (N=200) M (SD)	GERMANY (N=200) M (SD)	FINLAND (N=200) M (SD)	FRANCE (N=200) M (SD)	ITALY (N=200) M (SD)	SPAIN (N=200) M (SD)	NL (N=200) M (SD)	UK (N=200) M (SD)
...that you can find or receive reliable information about RSV	4.20 (1.00) ^{a b}	4.35 (0.72) ^{b c}	4.33 (1.04) ^b	4.05 (0.95) ^{a b}	3.97 (1.26) ^b	3.93 (1.19) ^b	4.26 (0.93) ^b	4.42 (0.68) ^{a b c}	4.32 (0.98) ^{a b}
...that you can find or receive reliable information about vaccination against RSV	4.23 (1.00) ^{a b}	4.39 (0.68) ^b	4.32 (1.01) ^b	4.19 (0.95) ^{a b}	4.02 (1.26) ^b	3.98 (1.16) ^b	4.29 (0.99) ^b	4.39 (0.65) ^{a b}	4.23 (1.04) ^b
...that your healthcare provider (e.g. GP or respiratory consultant) discusses vaccination against RSV with you	4.11 (1.05) ^b	4.39 (0.74) ^b	4.31 (1.06) ^b	3.65 (1.10)	4.06 (1.23) ^b	4.08 (1.13) ^b	4.26 (1.01) ^b	3.94 (0.89)	4.15 (0.99)
...that the government provides recommendations about vaccination against RSV	3.62 (1.22)	3.66 (1.16)	3.18 (1.37)	3.55 (1.08)	3.45 (1.37)	3.65 (1.25)	3.79 (1.27)	3.71 (1.06)	3.98 (1.06)
...that vaccinations against RSV are free	4.15 (1.11) ^b	4.21 (0.98) ^b	4.11 (1.21) ^b	4.28 (0.92) ^{a b}	3.99 (1.37) ^b	3.95 (1.30) ^b	4.22 (1.05) ^b	4.15 (0.98) ^b	4.33 (0.95) ^b

a. Significantly higher than the option "that your healthcare provider (e.g. GP or respiratory consultant) discusses vaccination against RSV with you," (p<.01 or p<.001);
b. Significantly higher than the option "that the government provides recommendations about vaccination against RSV," (p<.01 or p<.001);
c. Significantly higher than the option "that vaccinations against RSV are free," (p<.01 or p<.001);
 Significance level of p<.01 to correct for multiple comparisons.

Figure 13. Most Important Factors in Decision Making:



RELIABLE INFORMATION



DISCUSSING THE IMMUNISATION PRODUCTS WITH A HEALTHCARE PROVIDER



FREE IMMUNISATION

Participants found it least important whether the government provides recommendations compared to all the other options (such as from a healthcare provider). Participants found it most important to be able to find or receive reliable information about RSV and RSV immunisation products, to discuss it with their healthcare provider and that the immunisation products are free. We see similar results for most countries.



Participant indicated the most important factors in decision making were:

1. Access to reliable information;
2. Ability to discuss the immunisation options with a healthcare provider and;
3. Access to free immunisation products.

D. NEEDS IN DECISION MAKING

Additionally questions were asked to understand where older adults currently retrieve information about RSV (**Table 31**) and to pinpoint the sources they wish to receive information from in the future (**Table 32**).

Table 31. Current Sources of Information per Country:

1st Choice	GP	TV/ Radio	GP	Family / Friends	GP	GP	TV/ Radio	GP Google
2nd Choice	Medical Website	Google	Google	GP Google	TV/ Radio	Family / Friends	Google	Family / Friends
3rd Choice	Google	Medical Website	Family / Friends	TV/ Radio	Google	Google	Family / Friends	Medical Website
	Belgium	Finland	France	Germany	Italy	Spain	NL	UK



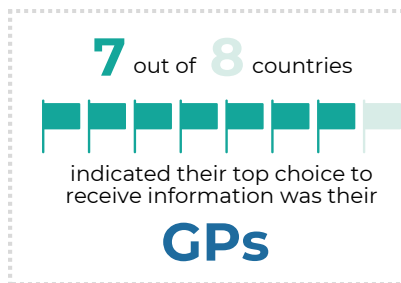
GPs are the **most trusted** source of information chosen across all the countries.

The majority of the older adults receive information regarding RSV from their **GP**, **Google** and **Family / Friends**. With GPs being the most trusted source of information across all countries.

Table 32. Desired Sources of Information per Country:

1st Choice	GP	Gov	GP	GP	GP	GP	GP	GP
2nd Choice	Gov	GP	Gov	Gov	Gov Hospital	Gov	Gov	Gov
3rd Choice	Hospital	Hospital	Hospital	Hospital	N/A	Hospital	Hospital	Hospital
	Belgium	Finland	France	Germany	Italy	Spain	NL	UK

GPs are the most desired source of information, however, there is a strong desire for **Governments** to provide information on RSV.



For older adults, the majority of participants receive information about RSV from their GPs, google, and family and/or friends. When asked about where they would like to receive information about RSV, GPs were the most desired source of information, followed by government and hospitals.

CONCLUSIONS



CONCLUSIONS - PARENTS



What can we learn from (future) parents for information dissemination for (future) parents?

The findings from the questionnaire indicate several key insights regarding parents' knowledge about RSV and their perceptions regarding immunisation. In this section the key insights, implications are discussed.

A. Knowledge about RSV

KEY INSIGHT(S)	IMPLICATION(S)
LEVEL OF KNOWLEDGE	
The majority of parents (61.7%) reported having at least some level of knowledge about RSV. However, there is still a pretty large group (about 38%) who knew nothing or almost nothing about RSV.	Nearly 38% of parents knew nothing or almost nothing about RSV indicating that awareness campaigns about RSV are still necessary.
COUNTRY OF RESIDENCE	
The results show that the level of knowledge varied significantly across countries, with France and Belgium reporting the lowest levels and Germany and the Netherlands reporting the highest levels.	This indicates that awareness campaigns should be tailored to country-specific contexts. Specifically in countries such as France and Belgium extra attention may need to be paid to increasing awareness of RSV.
GENDER AND EDUCATION	
When the results were adjusted for individual-level characteristics, it showed that women and individuals with high level of education (tertiary) reported higher levels of knowledge about RSV.	It is important to pay extra attention to raising awareness among (future) fathers and those with low and medium education levels.

B. Perceptions about RSV

KEY INSIGHT(S)	IMPLICATION(S)
RISK AND DANGER OF RSV	
The majority of parents believed that the risk and danger of RSV for babies was high. However, the results show that parents with higher self-reported knowledge of RSV were particularly aware of the risk and danger of RSV.	Parents' understanding of the risks and dangers of RSV are correlated to level of knowledge. Therefore, increasing awareness of RSV also increases the perception of risk and danger RSV may pose for infants.

CONCLUSIONS - PARENTS

C. Immunisation Products

KEY INSIGHT(S)	IMPLICATION(S)
MONOCLONAL ANTIBODY	
CONFIDENCE IN SAFETY AND PROTECTION / WORRIED ABOUT IMMEDIATE AND LONG-TERM SIDE EFFECTS	
<p>Parents were more confident in the protection (44.9%) than in the safety (24.3%) of the immunisation product for babies. Additionally, levels of confidence in both safety and protection varies based on country of residence.</p>	<p>Specific attention in awareness campaigns and future research should focus on the safety of the monoclonal antibody for babies.</p>
WILLINGNESS TO GIVE ANTIBODY TO BABY	
<p>They were more willing to give their baby the monoclonal antibody if they had higher knowledge about RSV, more confidence in the injection's safety and effectiveness, and were less worried about immediate and long-term harmful effects.</p>	<p>Higher knowledge of RSV is correlated to willingness to give a baby the monoclonal antibody, therefore, general awareness and knowledge of RSV is essential for increasing uptake of immunisation products among parents.</p>
MATERNAL VACCINATION	
CONFIDENCE IN SAFETY AND PROTECTION / WORRIED ABOUT IMMEDIATE AND LONG-TERM SIDE EFFECTS	
<p>Overall, the majority of future parents (78.7%) were confident about the protection offered by the maternal vaccination against RSV. However, participants had more confidence in its safety for the pregnant woman than for the baby in the womb.</p>	<p>Parents are more concerned regarding the safety of the maternal vaccination than with the level of protection it offers. Increasing parents confidence in the safety of the vaccination for the baby in the womb is important for uptake.</p>
WILLINGNESS TO GET VACCINATION	
<p>Participants were more likely to want the maternal vaccination if they had higher knowledge about RSV, more confidence in the injection's safety and effectiveness, and were less worried about immediate and long-term harmful effects.</p>	<p>Higher knowledge of RSV is correlated to willingness to get the maternal vaccination, therefore, general awareness and knowledge of RSV is essential for increasing uptake of immunisation products among parents.</p>
COMPARISON IN RESULTS FOR IMMUNISATION PRODUCTS	
<p>Parents are inclined to support the use of monoclonal antibodies as well as maternal vaccination.</p>	<p>Awareness campaigns should prioritise sharing accurate information about both immunisation methods to support informed decision-making.</p>

CONCLUSIONS - PARENTS

D. Needs in Decision Making:

KEY INSIGHT(S)	IMPLICATION(S)
HESITANCY	
<p>Some participants expressed being generally hesitant towards vaccination since COVID. Others emphasised the need for more information regarding their effectiveness and safety, and needing a discussion with healthcare professionals before making decisions about vaccination.</p>	<p>There are various reasons that parents may hesitate towards vaccinations. Accessibility to information about RSV and its immunisation products and ability to discuss with healthcare providers are essential to minimise hesitancy.</p>
KEY FACTORS IN DECISION-MAKING	
<p>Participant indicated the most important factors in decision making were:</p> <ol style="list-style-type: none"> 1. Access to reliable information; 2. Ability to discuss the immunisation options with a healthcare provider and; 3. Access to free immunisation products. 	<p>To support informed decision making and increase uptake of a RSV immunisation product, it is important provide parents with reliable information on RSV; offer the opportunity to discuss the different products with a healthcare provider; and that the product is free.</p>
CHANNELS OF INFORMATION	
<p>Whether the government provides recommendations about the measures was generally perceived as less important. It differed per country from which specific healthcare professional or organisation participants indicated they would prefer to receive information from. However, most frequently this was from a healthcare professional such as the GP, midwife or child health clinic.</p>	<p>Educating and raising awareness among GPs, midwives and child clinics (the top three choices across all countries) is essential to increase information flow to parents.</p>

CONCLUSIONS - OLDER ADULTS



What can we learn from older adults for information dissemination for older adults?

The findings from the questionnaire indicate several key insights regarding older adults' knowledge about RSV and their perceptions regarding immunisation. In this section the key insights, implications are discussed.

A. Knowledge about RSV

KEY INSIGHT(S)	IMPLICATION(S)
LEVEL OF KNOWLEDGE	
The majority of older adults indicated to know 'nothing at all' or 'almost nothing' about RSV (72.8%).	Awareness of RSV among older adults is still generally very low. Increasing awareness among this population is important.
COUNTRY OF RESIDENCE	
Based on the results, country of residence was associated with self-reported knowledge of RSV. With the lowest level of self-reported knowledge in France (88%) and the highest in Finland (42%).	In all countries, but especially in France, extra attention is needed to increasing awareness of RSV.
GENDER AND EDUCATION	
Age and education levels were not related to knowledge levels for older adults. Women indicated a higher self-reported level of knowledge compared to men.	Demographic factors play a role in RSV knowledge. Unlike the results of parents, for older adults, education levels were not related to knowledge levels of RSV. Special attention should be focused on increasing RSV awareness among men.

B. Perceptions about RSV

KEY INSIGHT(S)	IMPLICATION(S)
RISK AND DANGER OF RSV	
Despite the self-reported low knowledge level of RSV among older adults, the majority (79.7%) of participants found the risk of catching RSV high (sum of 'high', 'a bit high' and 'very high'). Additionally, participants indicated RSV to be more dangerous for adults aged ≥75 years than for adults aged 60 to 75 years old.	These results highlight the importance of disease awareness and the need for RSV awareness. Specifically increasing the risk for adults aged 60 to 75 years old.

CONCLUSIONS - OLDER ADULTS

C. Immunisation Products

KEY INSIGHT(S)	IMPLICATION(S)
RSV VACCINATION	
CONFIDENCE IN SAFETY AND PROTECTION / WORRIED ABOUT IMMEDIATE AND LONG-TERM SIDE EFFECTS	
Overall, the majority of participants were confident in the safety and protection of the vaccine against RSV. There were no significant difference in older adults concerns about immediate side effects versus long-term effects, however, about 60% expressed worries about the side effects.	There is still a large proportion of older adults (60%) that expressed worries about the potential side effects of a RSV vaccine, therefore, awareness should focus on informing older adults of the safety of the vaccine.
WILLINGNESS TO GET VACCINATION	
Older adults were more likely to indicate that they would want the vaccine if they had more confidence in the safety and protection of the vaccine, and were less worried about side effects.	Vaccine uptake would potentially be increased if confidence in the safety and protection of the vaccine are increased and the concerns about side effects are decreased.
AVAILABILITY OF VACCINATION	
The majority of participants (89%) found it important that a vaccine for RSV for older adults becomes available.	Although RSV knowledge among older adults remains low, the majority of older adults indicated that the availability of a vaccine is important.

D. Needs in Decision Making:

KEY INSIGHT(S)	IMPLICATION(S)
KEY FACTORS IN DECISION-MAKING	
Participant indicated the most important factors in decision making were: 1. Access to reliable information; 2. Ability to discuss the immunisation options with a healthcare provider and; 3. Access to free immunisation products.	To increase uptake of the RSV vaccine among older adults it is essential for them to have access to reliable information; be able to discuss the options with their healthcare provider and that the product is free of charge.
CHANNELS OF INFORMATION	
For older adults, the majority of participants receive information about RSV from their GPs, google, and family and/or friends. When asked about where they would like to receive information about RSV, GPs were the most desired source of information, followed by government and hospitals.	Educating and providing GPs with the most up-to-date information regarding RSV immunisation products is essential for raising awareness and informed decision making among older adults.

PATIENT PERSPECTIVE



“...the unknown is a scary place for anyone, but especially as a parent when you have to make decisions about the most precious thing in the world to you, your baby.”

- Rachael Thomas (lost her 13 week year old son to RSV)

Additionally, this study report was reviewed by the **ReSViNET Patient Network members**. The Patient Network consists of parents of patients who have had or have RSV and offer a critical perspective based on their lived experiences. Below is an overview of the key takeaways provided by our Patient Network based on the study report results:

Key Takeaways from the Patient Perspective:



Education is power. It is essential to provide (future) parents and older adults of *all* education levels with a solid understanding of RSV. This information should be accessible regardless of a parent or patients educational level.



Once parents and patients are aware of RSV, it increases their understanding of the risk of RSV and increases their willingness to choose for an immunisation product against RSV for themselves or their baby.



Immunisation programs can be overwhelming to parents and patients when making the decision to include an immunisation product, therefore, awareness and accurate information is essential for informed decision making.



Additionally, accurate information about RSV reduces concerns about immediate and long-term side effects and in turn can increase uptake of immunisation products.



Likewise, accurate information about RSV increase confidence about safety and protection of products and in turn can increase uptake of immunisation products.



Making a parent or patient feel truly heard is more likely to result in their engagement with new treatments.



Free immunisation products is crucial.

APPENDIX

Appendix 1. Multinomial Model - Parents

Table 33. Willingness to Give a Baby the Monoclonal Antibody:

	RESPONSE: NO ^a			RESPONSE: I AM NOT SURE ^a		
	COEFFICIENT (95% CI)	SD	P-VALUE	COEFFICIENT (95% CI)	SD	P-VALUE
Higher RSV Knowledge	-0.21 (-0.40, -0.01)	0.10	0.041	-0.30 (-0.51, -0.08)	0.11	0.007
Higher Confidence in Safety	-1.21 (-1.49, -0.93)	0.14	0.000	-0.67 (-0.98, -0.37)	0.16	0.000
Higher Confidence in Protection	-0.58 (-0.82, -0.33)	0.13	0.000	-0.27 (-0.55, 0.01)	0.14	0.058
More Worried About Immediate Side Effects	0.31 (0.05, 0.56)	0.13	0.019	0.33 (.04, 0.62)	0.15	0.025
More Worried About Long-Term Side Effects	0.54 (0.29, 0.80)	0.13	0.000	0.71 (0.42, 1.00)	0.15	0.000
Higher Age	0.02 (-0.01, 0.05)	0.01	0.175	0.03 (-0.00, 0.06)	0.02	0.063
Female Gender ^b	-0.10 (-0.49, 0.29)	0.20	0.613	0.12 (-0.32, 0.55)	0.22	0.601
Education Level ^c						
Medium	0.83 (-0.07, 1.72)	0.46	0.070	0.67 (-0.41, 1.75)	0.55	0.224
High	0.76 (-0.15, 1.67)	0.46	0.101	0.72 (-0.36, 1.81)	0.55	0.193
Country of Residence ^d						
Netherlands	1.02 (0.14, 1.90)	0.45	0.023	1.74 (0.78, 2.69)	0.49	0.000
Belgium	1.64 (0.82, 2.45)	0.42	0.000	1.53 (0.55, 2.51)	0.50	0.002
Finland	1.05 (0.20, 1.90)	0.44	0.016	1.72 (0.75, 2.68)	0.49	0.001
France	1.60 (0.78, 2.43)	0.42	0.000	1.28 (0.28, 2.29)	0.51	0.012
Italy	0.53 (-0.34, 1.40)	0.44	0.232	0.73 (-0.27, 1.74)	0.51	0.153
Spain	0.46 (-0.46, 1.37)	0.47	0.330	-0.08 (-1.19, 1.04)	0.57	0.894
UK	0.37 (-0.55, 1.28)	0.47	0.431	0.49 (-0.57, 1.55)	0.54	0.368
Intercept	-0.74 (-2.42, 0.92)	0.85	0.380	-4.40 (-6.42, 2.38)	1.03	0.000

N=1549.

a. Base outcome: 'yes';

b. Base outcome: 'male gender';

c. Base outcome: 'low education level';

d. Base outcome: 'Germany' (highest percentage of participants who selected yes).

APPENDICES

Appendix 2. Subgroup Multinomial Model - Parents

Table 34. Willingness to Give a Baby the Monoclonal Antibody:

	RESPONSE: NO ^a			RESPONSE: I AM NOT SURE ^a		
	COEFFICIENT (95% CI)	SD	P-VALUE	COEFFICIENT (95% CI)	SD	P-VALUE
Higher perceived risk of baby catching RSV	0.31 (-0.05, 0.66)	0.18	0.091	0.17 (-0.16, 0.51)	0.17	0.314
Higher perceived danger of RSV for babies	-0.36 (-0.75, 0.02)	0.20	0.063	0.11 (-0.27, 0.48)	0.19	0.573
Higher confidence in safety	-1.35 (-1.80, -0.89)	0.23	0.000	-0.85 (-1.28, -0.42)	0.22	<0.001
Higher confidence in protection	-0.65 (-1.05, -0.25)	0.20	0.001	-0.12 (-0.51, 0.28)	0.20	0.555
More worried about side-effects	0.48 (0.06, 0.90)	0.21	0.024	0.18 (-0.22, 0.59)	0.21	0.380
More worried about long-term effects	0.51 (0.10, 0.92)	0.21	0.014	0.80 (0.39, 1.20)	0.21	<0.001
Higher age	0.06 (0.01, 0.10)	0.02	0.020	0.04 (-0.00, 0.08)	0.02	0.080
Female gender ^a	-0.39 (-1.02, 0.23)	0.32	0.217	-0.06 (-0.68, 0.56)	0.32	0.849
Education Level ^b						
Medium	0.97 (-0.77, 2.71)	0.89	0.275	0.81 (-0.84, 2.46)	0.84	0.335
High	0.93 (-0.82, 2.68)	0.89	0.299	0.83 (-0.81, 2.48)	0.84	0.321
Country of Residence ^c						
Netherlands	1.35 (0.10, 2.61)	0.64	0.034	2.33 (1.05, 3.62)	0.66	<0.001
Belgium	2.34 (1.09, 3.59)	0.64	0.000	2.17 (0.79, 3.55)	0.70	0.002
Finland	1.49 (0.28, 2.70)	0.62	0.016	2.09 (0.77, 3.41)	0.67	0.002
France	1.62 (0.27, 2.96)	0.69	0.018	1.57 (0.07, 3.08)	0.77	0.041
Italy	1.08 (-0.30, 2.45)	0.70	0.124	0.41 (-1.28, 2.09)	0.86	0.634
Spain	1.29 (-0.05, 2.64)	0.69	0.059	0.59 (-0.92, 2.11)	0.77	0.441
UK	0.75 (-0.66, 2.15)	0.72	0.297	0.74 (-0.76, 2.25)	0.77	0.332
Intercept	-2.69 (-5.55, 0.18)	1.46	0.066	-6.89 (-10.10, -3.68)	1.64	<0.001

a. Base outcome: 'yes';
b. Base outcome: 'male gender';
c. Base outcome: 'low education level';
d. Base outcome: 'Germany' (highest percentage of participants who selected yes).

APPENDIX

Appendix 3. Multinomial Model - Parents

Table 35. Willingness to Get the Maternal Vaccination:

	RESPONSE: NO ^a			RESPONSE: I AM NOT SURE ^a		
	COEFFICIENT (95% CI)	SD	P-VALUE	COEFFICIENT (95% CI)	SD	P-VALUE
Higher Knowledge of RSV	-0.20 (-0.35, -0.04)	0.08	0.013	-0.26 (-0.49, -0.04)	0.12	0.022
Higher Confidence in safety for the baby in the womb	-0.40 (-0.59, -0.21)	0.10	0.000	-0.33 (-0.61, -0.05)	0.14	0.020
Higher confidence in safety for the pregnant woman	-0.48 (-0.68, -0.28)	0.10	0.000	-0.25 (-0.54, 0.05)	0.15	0.103
Higher confidence in protection	-0.69 (-0.88, -0.51)	0.10	0.000	-0.39 (-0.66, -0.13)	0.14	0.004
More worried about side-effects for the baby in the womb	0.10 (-0.13, 0.32)	0.11	0.398	0.45 (0.12, 0.79)	0.17	0.008
More worried about side-effects for the pregnant woman	0.17 (-0.07, 0.40)	0.12	0.161	0.23 (-0.12, 0.58)	0.18	0.202
More worried about long-term effects for the baby	0.12 (-0.11, 0.35)	0.12	0.310	0.39 (0.05, 0.74)	0.18	0.027
More worried about long-term effects for the pregnant woman	0.10 (-0.13, 0.32)	0.12	0.407	-0.32 (-0.66, 0.02)	0.18	0.067
Higher Age	-0.01 (-0.03, 0.02)	0.01	0.540	0.02 (-0.01, 0.05)	0.02	0.158
Female Gender ^b	-0.01 (-0.32, 0.30)	0.16	0.941	0.00 (-0.45, 0.45)	0.23	0.990
Education Level ^c						
Medium	0.08 (-0.68, 0.84)	0.39	0.838	-0.12 (-1.19, 0.95)	0.55	0.823
High	0.33 (-0.43, 1.10)	0.39	0.391	0.06 (-1.01, 1.13)	0.55	0.911
Country of Residence ^d						
Netherlands	0.76 (0.14, 1.39)	0.32	0.016	1.45 (0.58, 2.33)	0.45	0.001
Belgium	0.91 (0.30, 1.53)	0.31	0.004	0.73 (-0.27, 1.73)	0.51	0.151
Finland	0.75 (0.14, 1.37)	0.31	0.016	1.40 (0.51, 2.30)	0.46	0.002
France	1.18 (0.56, 1.80)	0.32	<0.001	0.76 (-0.25, 1.77)	0.52	0.139
Italy	0.38 (-0.24, 1.00)	0.32	0.229	0.48 (-0.47, 1.43)	0.48	0.320
Spain	0.13 (-0.52, 0.77)	0.33	0.699	0.14 (-0.84, 1.12)	0.50	0.784
UK	0.39 (-0.23, 1.00)	0.32	0.221	0.64 (-0.31, 1.58)	0.48	0.186
Intercept	2.49 (1.06, 3.91)	0.73	0.046	-2.21 (-4.39, -0.04)	1.11	0.046

N=1547.
a. Base outcome: "yes";
b. Base outcome: "male gender";
c. Base outcome: "low education level";
d. Base outcome: "Germany" (highest percentage of participants who selected yes).

APPENDIX

Appendix 4. Subgroup Analysis Multinomial Model - Parents

Table 36. Willingness to Get the Maternal Vaccination:

	RESPONSE: NO ^a			RESPONSE: I AM NOT SURE ^a		
	COEFFICIENT (95% CI)	SD	P-VALUE	COEFFICIENT (95% CI)	SD	P-VALUE
High perceived likelihood of baby catching RSV	0.05 (-0.21, 0.30)	0.13	0.703	0.10 (-0.23, 0.43)	0.17	0.551
Higher perceived danger of RSV for babies	-0.48 (-0.76, -0.21)	0.14	0.001	-0.08 (-0.44, 0.29)	0.19	0.682
Higher confidence in safety for the baby in the womb	-0.56 (-0.84, -0.28)	0.14	0.000	-0.33 (-0.69, 0.04)	0.19	0.081
Higher confidence in safety for the pregnant woman	-0.58 (-0.88, -0.29)	0.15	0.000	-0.46 (-0.84, -0.07)	0.20	0.020
Higher confidence in protection	-0.63 (-0.92, -0.35)	0.14	0.000	-0.31 (-0.67, 0.05)	0.18	0.091
More worried about side-effects for the baby in the womb	0.19 (-0.13, 0.52)	0.17	0.250	0.56 (0.11, 1.01)	0.23	0.015
More worried about side-effects for the pregnant woman	0.27 (-0.08, 0.61)	0.18	0.129	0.32 (-0.15, 0.78)	0.24	0.186
More worried about long-term effects for the baby	0.10 (-0.23, 0.43)	0.17	0.538	0.31 (-0.15, 0.77)	0.23	0.182
More worried about long-term effects for the pregnant woman	-0.05 (-0.39, 0.29)	0.17	0.779	-0.35 (-0.81, 0.12)	0.24	0.145
Higher Age	0.01 (-0.02, 0.04)	0.02	0.524	0.03 (-0.01, 0.07)	0.02	0.163
Female Gender ^b	-0.08 (-0.54, 0.38)	0.24	0.739	-0.02 (-0.64, 0.60)	0.32	0.939
Education Level ^c						
Medium	0.42 (-0.80, 1.64)	0.62	0.499	0.23 (-1.38, 1.85)	0.82	0.778
High	0.62 (-0.60, 1.84)	0.62	0.318	0.42 (-1.19, 2.03)	0.82	0.608
Country of Residence ^d						
Netherlands	0.94 (0.17, 1.71)	0.39	0.016	2.59 (1.28, 3.89)	0.67	0.000
Belgium	0.87 (0.01, 1.72)	0.44	0.048	1.67 (0.15, 3.18)	0.77	0.031
Finland	0.76 (-0.01, 1.52)	0.39	0.052	2.30 (0.95, 3.66)	0.69	0.001
France	1.31 (0.41, 2.22)	0.46	0.004	1.68 (0.05, 3.32)	0.83	0.044
Italy	0.41 (-0.48, 1.30)	0.45	0.364	1.20 (-0.33, 2.74)	0.78	0.125
Spain	0.14 (-0.70, 0.98)	0.43	0.743	0.94 (-0.52, 2.39)	0.74	0.207
UK	0.20 (-0.62, 1.01)	0.42	0.638	1.29 (-0.15, 2.72)	0.73	0.079
Intercept	3.06 (0.88, 5.23)	1.11	0.006	-4.44 (-7.74, -1.15)	1.68	0.008

a. Base outcome: 'yes';
b. Base outcome: 'male gender';
c. Base outcome: 'low education level';
d. Base outcome: 'Germany' (highest percentage of participants who selected yes).

APPENDIX

Appendix 5. Multinomial Model - Older Adults

Table 37. Willingness to Get Vaccination:

	RESPONSE: NO ^a			RESPONSE: I AM NOT SURE ^a		
	COEFFICIENT (95% CI)	SD	P-VALUE	COEFFICIENT (95% CI)	SD	P-VALUE
Higher knowledge of RSV	0.27 (-0.03, 0.57)	0.15	0.074	-0.31 (-0.60, -0.02)	0.15	0.039
Higher confidence in safety of vaccination	-1.00 (-1.43, -0.58)	0.22	0.000	-0.49 (-0.90, -0.08)	0.21	0.020
Higher confidence in protection of vaccination	-1.05 (-1.47, -0.63)	0.21	0.000	-0.46 (-0.86, -0.06)	0.20	0.023
More worried about side-effects	0.51 (0.05, 0.97)	0.23	0.029	0.51 (0.08, 0.94)	0.22	0.021
More worried about long-term effects	0.27 (-0.19, 0.72)	0.23	0.252	0.11 (-0.32, 0.55)	0.22	0.609
Higher Age	-0.01 (-0.05, 0.04)	0.02	0.710	-0.02 (-0.07, 0.02)	0.02	0.356
Female Gender ^b	-0.13 (-0.61, 0.35)	0.25	0.591	0.14 (-0.33, 0.60)	0.24	0.563
Education Level ^c						
Medium	0.01 (-0.58, 0.60)	0.30	0.972	0.34 (-0.25, 0.94)	0.30	0.258
High	0.22 (-0.40, 0.84)	0.32	0.488	0.64 (0.04, 1.25)	0.31	0.036
Country of Residence ^d						
Netherlands	0.64 (-0.42, 1.70)	0.54	0.235	0.84 (-0.14, 1.81)	0.50	0.093
Belgium	1.44 (0.44, 2.45)	0.51	0.005	1.04 (0.06, 2.02)	0.50	0.038
Germany	0.66 (-0.35, 1.67)	0.51	0.201	0.66 (-0.32, 1.64)	0.50	0.187
Finland	-0.55 (-1.66, 0.55)	0.56	0.324	0.42 (-0.61, 1.46)	0.53	0.420
France	1.80 (0.80, 2.79)	0.51	0.000	1.21 (0.20, 2.21)	0.51	0.019
Italy	0.46 (-0.55, 1.46)	0.51	0.374	0.72 (-0.27, 1.71)	0.50	0.153
Spain	-0.54 (-1.59, 0.52)	0.54	0.318	0.06 (-0.92, 1.04)	0.50	0.901
Intercept	2.67 (-0.88, 6.23)	1.81	0.141	1.06 (-2.46, 4.59)	1.80	0.554

N=775.
a. Base outcome: yes;
b. Base outcome: male gender;
c. Base outcome: low education level;
d. Base outcome: United Kingdom (highest percentage of participants who selected yes).

Want to learn more about RSV?

Useful Resources:

- www.resvnet.org
- <https://imi-promise.eu/>

CONTACT

The ReSViNET Foundation



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