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diseases in pregnancy; Emergency Medicine**



Adult Immunization Board – Country meeting:

*Session 7: Adult vaccination in Portugal in specific situations
and population groups, the way forward*

7.2 Vaccinations of pregnant women



A collaboration of

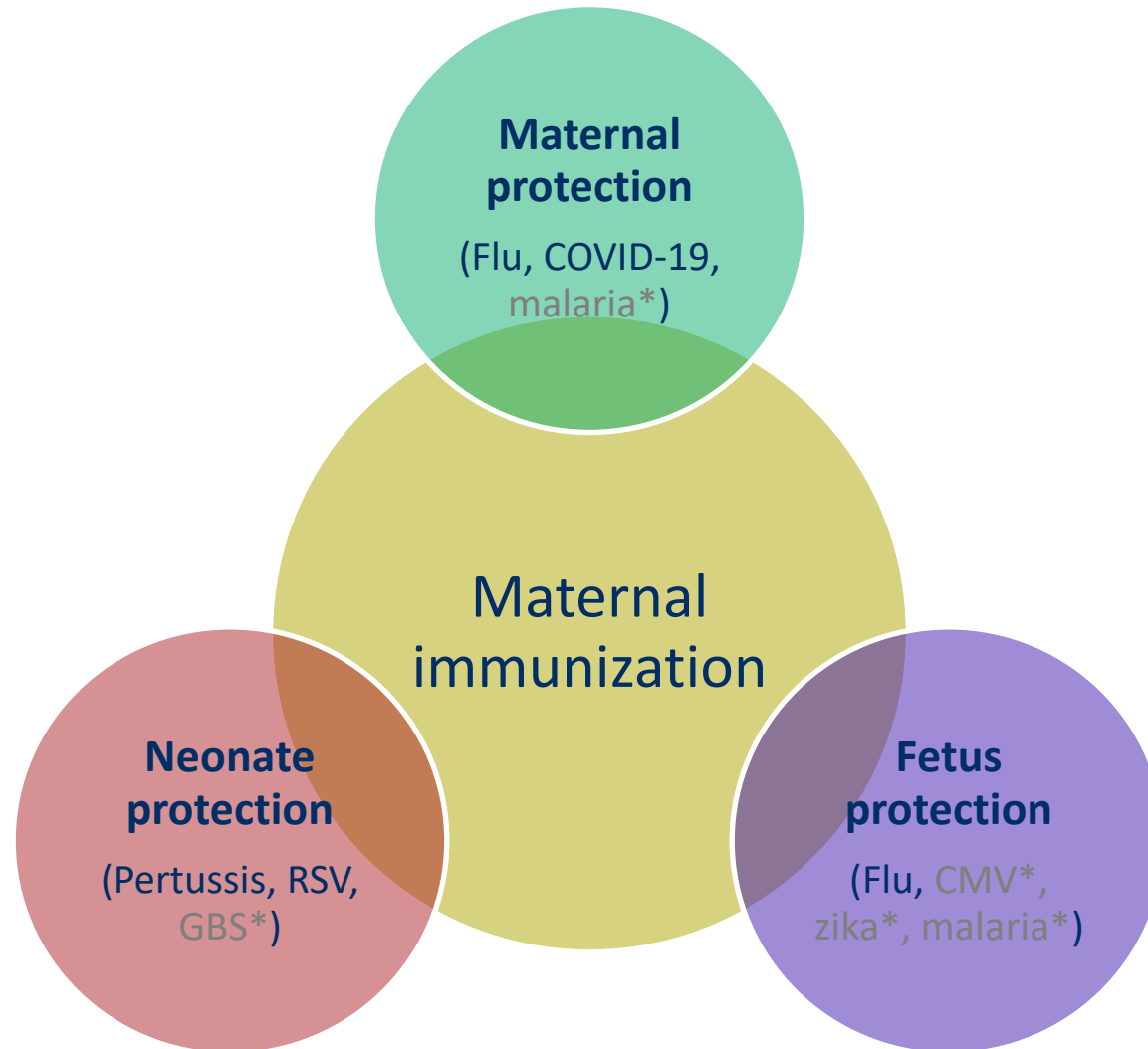


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Vaccinations of pregnant women



Vaccinations of pregnant women – general principles

- Protection against vaccine-preventable diseases that carry risk of maternal and fetal/neonate morbidity and mortality due to immune changes leading to higher vulnerability or immune immaturity, without compromising immunogenicity
- Recommended inactivated/mRNA vaccines or antibodies
- Contraindicated live attenuated vaccines (eg. MMR and varicella vaccines)
 - Theoretical risk of fetal infection
 - Avoid during pregnancy and 1 month before conception

Vaccinations of pregnant women according to the Blue Book of Vaccines of the Directorate-General of Health (DGS)



- Optional
- Free of charge
- Free of prescription

<https://www.dgs.pt/publicacoes/livro-azul-de-vacinas-programa-nacional-de-vacinacao-e-outras-estrategias-de-imunizacao.aspx>

Vaccinations of pregnant women according to the Blue Book of Vaccines of the Directorate-General of Health (DGS)

Vaccine	Indications
Tdap	<u>Recommended</u> [20-36w of gestation, after morphological ultrasound (20w – 22w6d), ideally up to 32w]
Td, HBV, IPV, MenACWY, Pn20 and Pn23	Administer, if indicated
HPV	Not recommended due to lack of evidence in pregnancy
MMR	Contraindicated (until 1 month prior to conception) In situations of high risk of infection, the vaccine may be replaced by passive immunization

Adapted from the Blue Book of Vaccines of the Directorate-General of Health (DGS) of Portugal.

Vaccinations of pregnant women according to the Blue Book of Vaccines of the Directorate-General of Health (DGS)

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Tdap	<u>Recommended</u> [20-36w of gestation, after morphological ultrasound (20w – 22w6d), ideally up to 32w]

- If vaccination schedule is unknown/incomplete: complete 3 doses (one of which must be Tdap) before delivery or as soon as possible (0m – 1m – 6-12m)
- If post-exposure prophylaxis/wound treatment: Td (or Tdap) if last dose ≥ 5 -10 years ago \pm tetanus immune globulin, depending on tetanogenic risk

Adapted from the Blue Book of Vaccines of the Directorate-General of Health (DGS) of Portugal.

Vaccinations of pregnant women according to the Blue Book of Vaccines of the Directorate-General of Health (DGS)

Vaccine	Indications
Td, HBV, IPV, MenACWY, Pn20 and Pn23	Administer, if indicated

- **HBV:** if high risk of infection in unvaccinated and noninfected pregnant women, ideally in 2nd or 3rd trimester.
- **IPV:** if unvaccinated pregnant women.
- **MenACWY:** if risk group for Invasive Meningococcal Disease
- **Pn20 and Pn23:** if risk group for Invasive Pneumococcal Disease

Adapted from the Blue Book of Vaccines of the Directorate-General of Health (DGS) of Portugal.

Vaccinations of pregnant women according to the Blue Book of Vaccines of the Directorate-General of Health (DGS)

Vaccine	Indications
MMR	Contraindicated (until 1 month prior to conception) In situations of high risk of infection, the vaccine may be replaced by passive immunization

- **Measles:**

- Post-exposure prophylaxis: intravenous immune globulin at a dose of 150 mg/kg is recommended within six days of exposure in nonimmune pregnant women.
- Interval of 5-6 months until vaccination (post delivery).

Adapted from the Blue Book of Vaccines of the Directorate-General of Health (DGS) of Portugal.

Vaccinations of pregnant women according to DGS and national and international recommendations

Vaccine	Indications
Varicella (Varivax® e Varilrix®; 2 doses)	<ul style="list-style-type: none">• Contraindicated (until 1 month prior to conception)• Recommended in high-risk nonpregnant patients:<ul style="list-style-type: none">- Nonimmune fertile women- Nonimmune parents of young children- Adults or children who frequently come into contact with immunocompromised patients- Nonimmune individuals in high-risk occupations (daycare and nursery workers, teachers, healthcare professionals)• In situations of high risk of infection in pregnancy, the vaccine may be replaced by passive immunization

Vaccinations of pregnant women according to National Norms and Guidelines of the Directorate-General of Health (DGS)

Preventable Disease/Vaccine	Indications
Seasonal Influenza Influvac [®] , Vaxigrip [®] , Fluarix [®] (1 dose)	<u>Recommended</u> <ul style="list-style-type: none">Any trimester of pregnancy
COVID-19 Comirnaty LP.8.1 [®] (1 dose)	<u>Recommended</u> <ul style="list-style-type: none">Any trimester of pregnancy (4-6 months interval since SARS-CoV-2 infection)

Vaccinations of pregnant women according to International Recommendations

Preventable Disease/Vaccine	Indications
RSV Abrysvo® (1 dose)	<u>Recommended</u> by European Medicines Agency (EMA): <ul style="list-style-type: none"> in pregnant women, between 24-36w of gestation, for passive immunization of neonates and infants against lower respiratory tract disease caused by RSV



Preventable Disease

Indications (National Norm and Guideline)

RSV Nirsevimab (Beyfortus®)	<u>Recommended</u> by National Norms and Guidelines of the DGS and free of charge <ul style="list-style-type: none"> in neonates born in the beginning and during VSR season and neonates and infants in higher risk of severe disease
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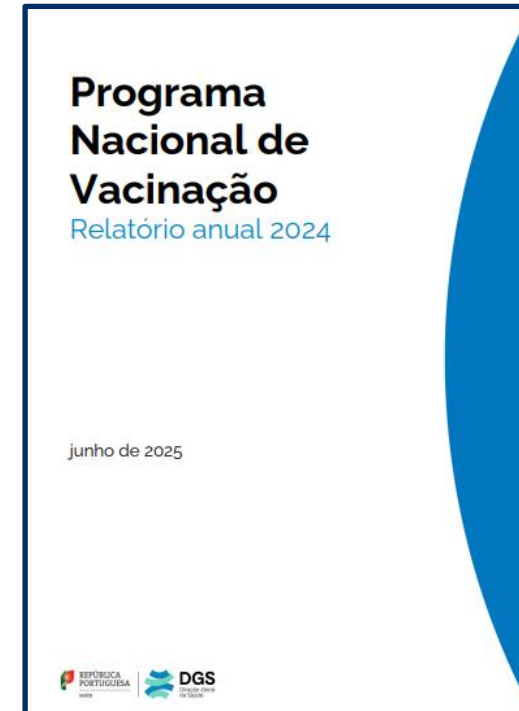
Vaccinations of pregnant women according to International Recommendations and SmPC

Vaccine	Considerations
Hib	If risk group for Invasive Haemophilus influenzae Disease
HAV, Typhoid, Yellow Fever*	If risk of exposure (traveling for endemic region)

Vaccine uptake among pregnant women in Portugal



*Data referring to 2023



- 84% of pregnant women received Tdap in 2023
- 80.4% of pregnant women received Tdap in 2024

Vaccine uptake among pregnant women in Portugal

Tabela 4. Número de pessoas vacinadas por grupo específico.

Grupo específico	COVID-19			Gripe Influenza		
	2024/2025	2023/2024	Variação	2024/2025	2023/2024	Variação
Elegível por idade (≥ 60 anos)	1 362 670	1 687 341	-19%	1 923 988	1 992 027	-3%
Residentes ERPI/RNCCI e similares	136 400	139 463	-2%	158 407	153 900	+3%
Profissionais ERPI/RNCCI e similares	19 229	27 183	-29%	38 855	38 699	≈
Profissionais de saúde	39 872	52 105	-23%	63 218	65 182	-3%
Patologias de risco	113 926	153 715	-26%	188 826	185 755	+2%
Estabelecimentos prisionais (residentes e profissionais)	3 632	5 062	-28%	4 936	6 025	-18%
Outros*	12 647	19 751	-36%	75 902	79 180	-4%

Fonte: VACINAS. Dados extraídos a 19/05/2025.

* Neste grupo são consideradas grávidas, pessoas em situação de sem-abrigo e bombeiros/proteção civil.

Adapted from the Autumn-Winter 2024-2025 Seasonal Vaccination Campaign - Final Report of the Directorate-General of Health (DGS) of Portugal.

Vaccine uptake among pregnant women in Portugal

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Vaccine uptake among pregnant women in Portugal



VACINÓMETRO



Monitorização dos resultados das últimas edições do Vacinómetro®

	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
65 anos ou mais	67,60%	61,20%	65,90%	76%	74,6%	88,3%	83,2%	77,7%	
60-64 anos	41,40%	31,80%	37,30%	43,2%	40,9%	53,3%	33,4%	45,9%	
Indivíduos Portadores de Doença Crónica	59,60%	50%	55,80%	72%	74,4%	83,4%	79,7%	76,6%	
Profissionais de Saúde em contacto com Doentes	59,10%	54,80%	52%	58,90%	62,9%	64,4%	52,6%	45,9%	
Grávidas	---	---	---	---	53,6%	60,2%	69,2%	60,8%	64,9%

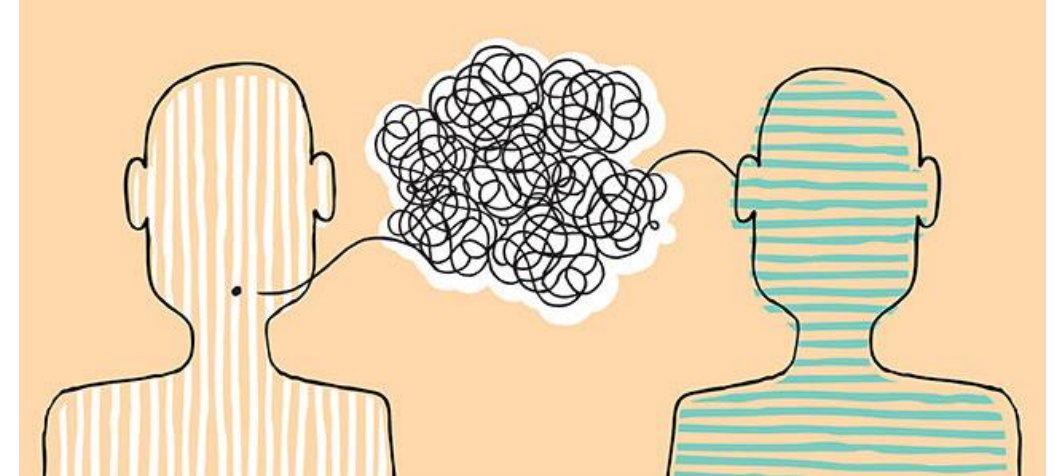
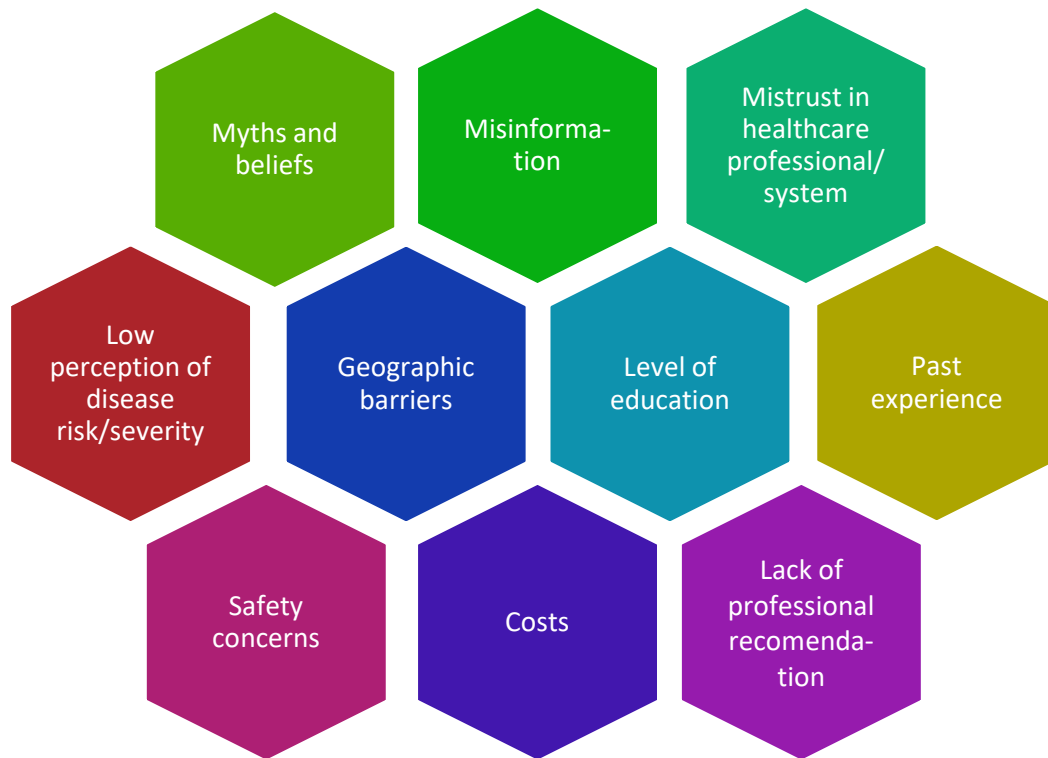
- 83,3% on the recommendation of their doctor.

Adapted from Vacinómetro® - Portuguese Society of Pneumology (SPP) and Portuguese Association of General and Family Medicine (APMGF), with the support of Sanofi® (last updated: February 12, 2025)

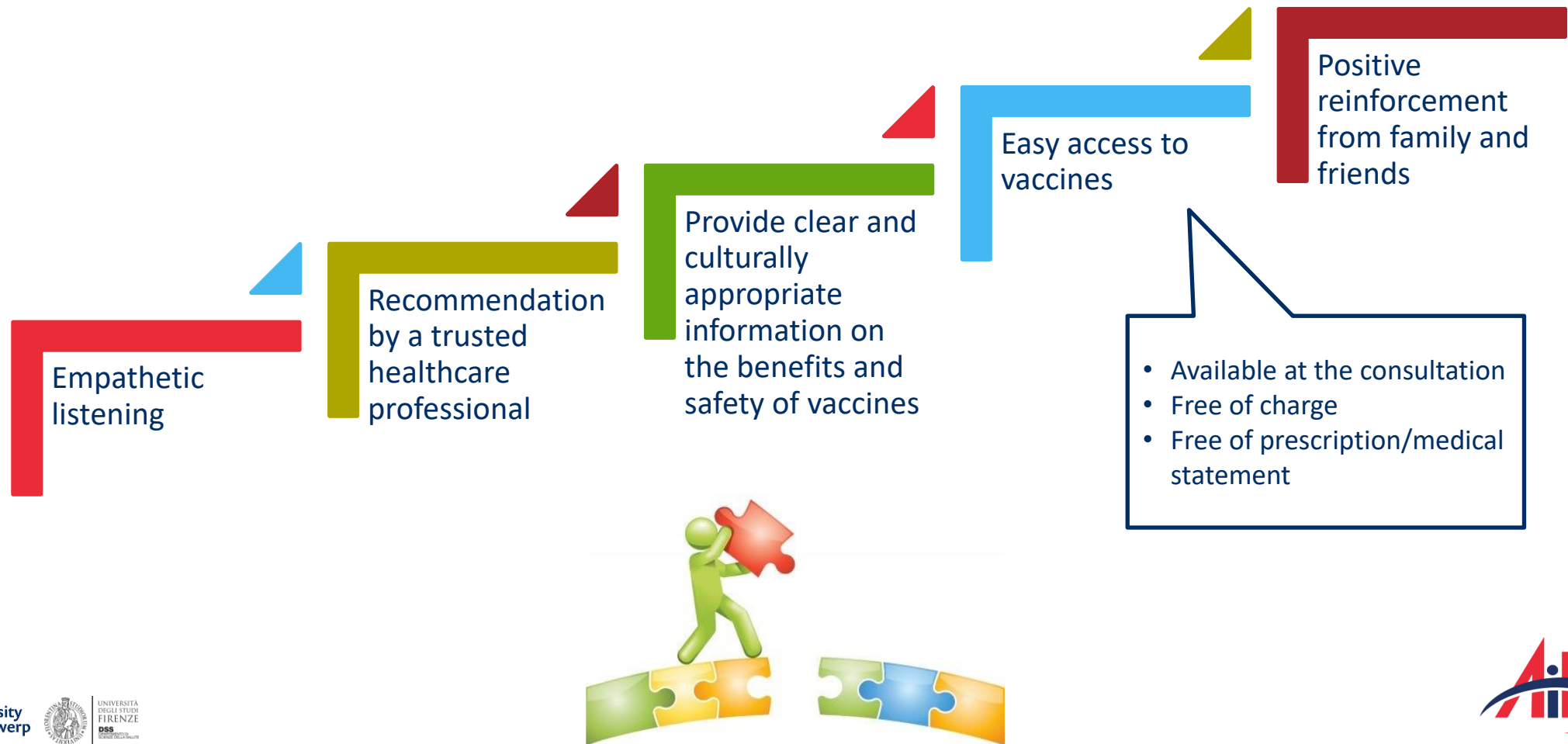
Factors affecting vaccine uptake

Vaccine Hesitancy (WHO):

Delay in acceptance or refusal of safe vaccines despite availability of vaccination services and evidence supporting them.

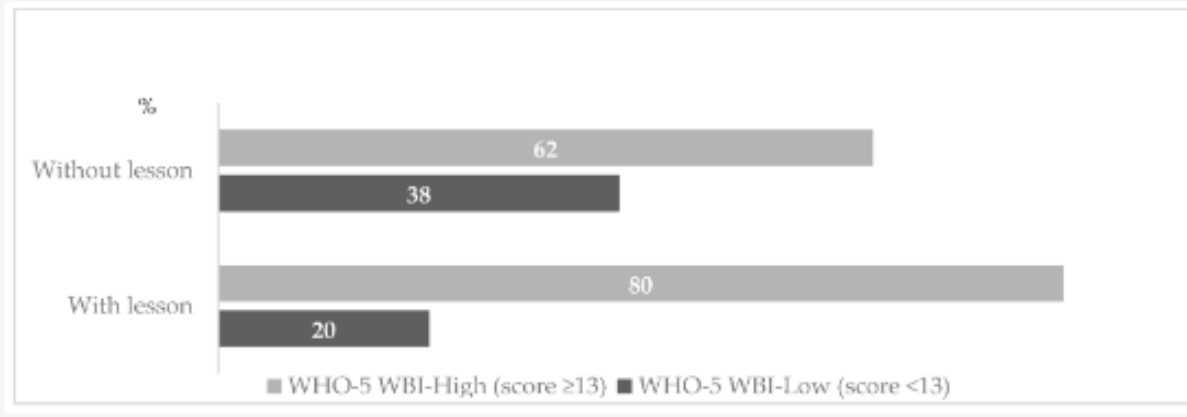


Factors affecting vaccine uptake



Factors affecting vaccine uptake

Figure 2. Distribution of maternal wellbeing level, assessed by WHO-5 WBI scores and according to the presence or absence of the additional lesson on vaccination during pregnancy.



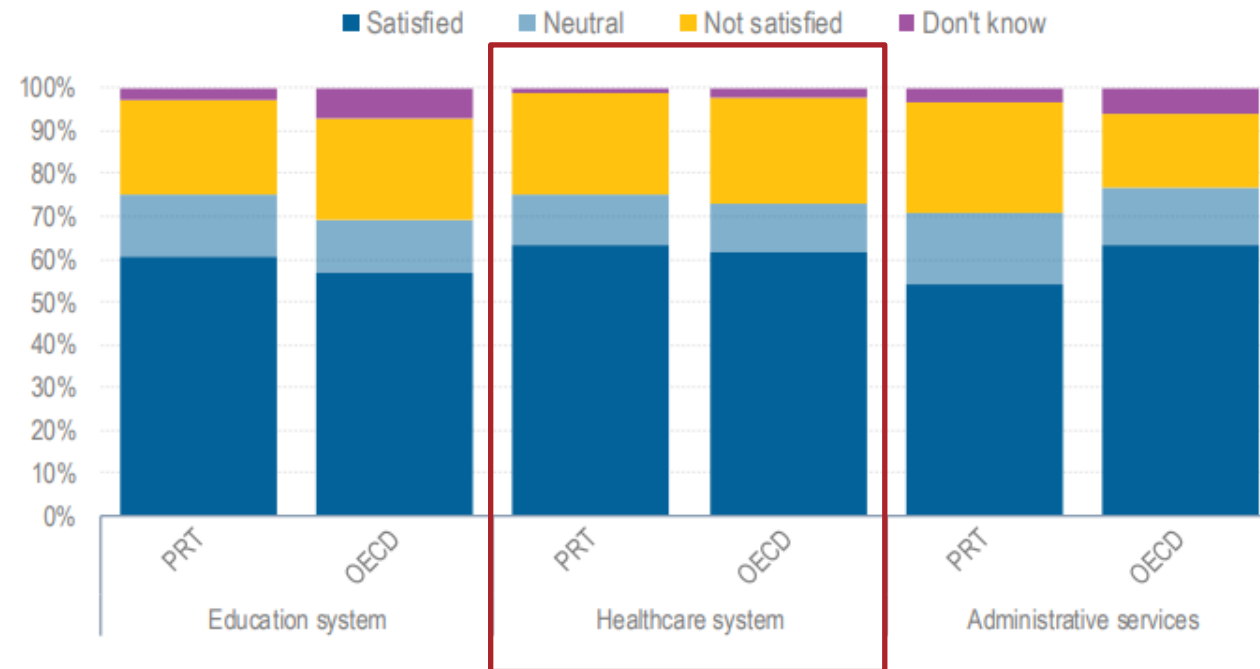
Triunfo S et al. Increasing Vaccine Uptake during Pregnancy by Using Prenatal Education Classes: An Effective Tool for Health Communication and Promotion. *Children*. 2023; 10(9):1466.



Factors affecting vaccine uptake in Portugal

Figure 3.3. Portuguese people are relatively satisfied with the education and healthcare systems

Share of respondents who indicate satisfaction with education, healthcare system and administrative services in Portugal and OECD average, 2021



In Lessons from the OECD Trust Survey in Portugal - OECD Public Governance Policy Paper N°27

Factors affecting vaccine uptake in Portugal

- Positive correlation between **perception of disease severity** and vaccine acceptance.

Santos AJ, Kislaya I, Matias-Dias C and Machado A. Health beliefs and attitudes toward Influenza and COVID-19 vaccination in Portugal: a study using a mixed-method approach
Front. Public Health 11:1331136 (2024).

- **Adapting communication style** is important to improve vaccine acceptance and uptake.

Mendonça J, Hilário AP and Gouveia L. Motivational Interviewing to Address Vaccine Hesitancy: Insights from an Intervention in Portugal. Port J Public Health (2024).

- **Trust** in vaccines and in healthcare professionals seem to play a key role in keeping a low vaccine hesitancy and a high immunization coverage in Portugal.

Gomes F et al. Parental childhood vaccine hesitancy and the National Vaccination Programme, in Portugal. Eur J Public Health. Volume 34, Issue Supplement_3 (2024).

Cultural behaviour

Health literacy

Transparency

Proximity for
immunization (local
health centres,
pharmacies)

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