

COVID-19 Vaccination: The Voice of Adolescents and Young Adults

COVID-19 Vacunación: la voz de los adolescentes y los adultos jóvenes

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ABSTRACT

Introduction: As a non-priority group for SARS-CoV-2 vaccination, adolescents and young adults (AYA) also deserve the opportunity to participate in a topic that affects them. **Aim:** AYAs' knowledge, advantages, fears and opinions related to vaccination are presented. **Method:** 558 participants aged 16-24 years ($M = 19.34$ years, $SD = 2.266$), mostly girls (72%), of Portuguese nationality (93.2%) and university students (60.8%). **Results:** They believe that vaccination will take time to have an effect (74.7%) and that the use of masks and detachment will last (72.4%). Confident in the protective role of the vaccine, especially for risk groups (81%) and in avoiding further health complications in the event of infection (50.2), they were afraid of the side effects (37.8%). 55.6% believe that the vaccine should be for everyone. **Conclusion:** We intend to raise awareness among policy-makers about the need to deconstruct this group's fears of the adverse effects of vaccination, including them in this process.

KEYWORDS

SARS-CoV-2; Vaccination; Adolescents; Young adult.

RESUMEN

Introducción: Como grupo no prioritario para la vacunación contra el SARS-CoV-2, los adolescentes y los adultos jóvenes (JAE) también merecen la oportunidad de participar en un tema que les afecta. **Objetivo:** Se presentan los conocimientos, las ventajas, los temores y las opiniones de los jóvenes en relación con la vacunación. **Método:** 558 participantes de entre 16 y 24 años ($M = 19,34$ años, $DT = 2,266$), en su mayoría chicas (72%), de nacionalidad portuguesa (93,2%) y estudiantes universitarios (60,8%). **Resultados:** Creen que la vacunación tardará en surtir efecto (74,7%) y que el uso de mascarillas y el desprendimiento durarán (72,4%). Confianza en el papel protector de la vacuna, sobre todo para los grupos de riesgo (81%) y en evitar mayores complicaciones de salud en caso de infección (50,2), tenían miedo de los efectos secundarios (37,8%). El 55,6% cree que la vacuna debería ser para todos. **Conclusión:** El objetivo es concienciar a los responsables políticos de la necesidad de disipar los temores de este grupo sobre los efectos adversos de la vacunación e incluirlos en el proceso.

PALABRAS CLAVE

SARS-CoV-2; Vacunación; Adolescentes; Adulto joven.

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The disease caused by the SARS-CoV-2 coronavirus was declared a pandemic on 11 March 2020 (WHO, 2020), requiring the implementation of social isolation and confinement measures in order to reduce the spread of the virus (Ministry of Health, 2021a). In Portugal, a state of emergency was declared on 18 March 2020, based on the situation of public calamity experienced in the country (Decree Law No. 55/2020, 3rd Supplement, Series I of 2020-03-18, *Diário da República*). Schools and other educational establishments closed (March 2020 and January 2021), and physical distancing and prohibition of gatherings was established.

With more than 1,000 confirmed cases of SARS-CoV-2, and more than 17,000 deaths since the start of the pandemic (Ministry of Health, 2021b), the last general containment in Portugal has already been met under the perspective of mass vaccination measures. Vaccination is an effective public health priority measure to combat the spread of infectious diseases, and will play a central role in containing the pandemic, especially in preventing severe illness and death, and thus supporting health systems and restoring daily life and social life (Ministry of Health, 2021a). The criteria for prioritizing groups in anti-SARS-CoV-2 vaccination has been studied in the light of various factors such as age, disease severity and mortality, and the literature is not conclusive on the role of children and AYA in virus transmission.

The definition of priority groups then depends mainly on what is to be achieved: the protection of the most vulnerable population,

the sustainability of health systems, long-term economic benefits, or the protection of the national economy (Giubilini, Savulescu, Wilkinson, 2020). Even though the literature points to two hypotheses in defining the priority group for vaccination: (i) people aged 60 years and older should be prioritized in a view to minimize the severity of the disease, complications and mortality; (ii) the vaccination of adults between 20 and 49 years is shown to be highly effective in protecting the population by blocking transmission (Bubar et al., 2021). It is important to emphasise that the vaccination of these groups is a strategy used simultaneously, but that given the scarcity of vaccines, priority should be given to the goal of reducing mortality and morbidity. In the most recent World Health Organization update, vaccines (depending on their type) are described as protective of the individual, but not of transmission (WHO, 2021).

The Directorate-General of Health initially planned to make about 22.8 million doses available for Portugal, which would allow for the vaccination of the entire (eligible) portuguese population by the end of 2021. The vaccination plan in the country envisaged a phased distribution based on a definition of priority groups, taking into account scientific and ethical criteria (Ministry of Health, 2021a). In a first and second phase, the vaccination of children and AYA was not foreseen, which were only to be vaccinated in the final phases of the vaccination plan, when the vaccine was administered to the general population (non-priority groups) (NHS24, 2021). Vaccines were not recommended below the age of 16 years,

as no vaccine had widely tested at the time below this age. Currently, with over 85% of the country's population vaccinated, anti-SARS-CoV-2 vaccination is available to all individuals aged 12 years and older.

Different age groups have different attitudes and specific concerns about the vaccination and the disease itself. Experiencing pandemic fatigue, AYAs often display a bias about the risk the virus poses to their age group, believing that they have a lower risk of disease and that it poses a less serious threat to them than it does to adults or the elderly (Wise, Zbozinek, Michelini, Hagan, & Mobbs, 2020). Thus, vaccine acceptance is also influenced by perceived exposure to the virus, perceived risk and protective behaviours (Lin, Tu, & Beitsch, 2021; Qiao, Tam, & Li, 2020). Thus, the investigation of sociodemographic and psychosocial factors affecting vaccine uptake should be considered in the development of an effective immunization plan (Qiao, Tam, & Li, 2020).

Affected in their lives, and also being a non-priority group for immunisation through vaccination, just like the Spanish YAs, we present the knowledge, advantages, fears and opinions of portuguese AYAs related to anti-SARS-CoV-2 vaccination, at a stage when their vaccination was still an uncertainty.

Methodology

This work is included in the study "Dream Teens: The Voice of Young People in Direct Speech" (Branquinho & Matos, 2019), which had the approval of the Ethics Committee of the Lisbon Academic Medicine Centre. The informed consent for parents or legal represen-

tatives of minors under 18 years of age was described in the questionnaire, with mandatory acceptance to proceed. For further clarifications, the contact details of the research team were included.

Design

This study was designed and conducted based on an online methodology. Its dissemination was carried out by the research team's contact network, institutions linked to work with AYA and Jovem Cascais/Cascais Municipality. Data was collected anonymously in the period from 28 December 2020 to 24 January 2021.

Instrument

In this instrument with an average completion time of 5-7 minutes, questions were included:

- sociodemographic data (age, gender, nationality, district of residence, level of education attended and work status);
- questions related to what they expected to change with the vaccination, integrating 5 multiple answer options: "Quickly the transmission between people will decrease, and allow us to return to normality"; "It will take time to produce effects, only when 70% of the population is vaccinated we will be able to return to normality". The use of masks and physical distancing will continue to be part of our lives for a long time"; "Even with the vaccine and the pandemic eradicated, our lives will never be the same again"; "It won't change anything, no vaccine is 100% effective"; "Another one. Which one?";

- focus on the advantages and fears regarding vaccines, which also provided 5 multiple answer options: "The use of masks and physical distance will not be effective in combating the pandemic, only with vaccination will we be able to extinguish COVID-19."; "Getting vaccinated can help prevent further complications, even if you get infected."; "Getting vaccinated can help protect people, especially people at higher risk."; "I do not trust the safety and effectiveness of vaccines."; "I am afraid of the adverse effects of vaccination."; "Other. Which one?";
- Finally, whether the vaccine should be for everyone or for specific groups, including as single answer options: "For everyone."; "As planned by the Government: 3 phases excluding pregnant women and children." and "For specific groups." Unlike the previous questions, this one allowed only one response option. For those who selected the option "For specific groups.", it asked to select which ones (multiple answer) (older, younger, chronically ill, rulers, health professionals, education professionals, police forces, supply staff).

Data Analysis

The quantitative analysis software SPSS, version 26 was used to develop descriptive statistics of the data (mean, standard deviation, minimum and maximum). The open-ended questions were analysed based on Bardin's content analysis method (2011).

Results

A total of 589 responses were collected, of which 558 were considered valid after eliminating incomplete or duplicate responses.

Participants had a mean age of 19.34 years (Min=16; Max=24; $SD=2.266$), of which 54.5% were in the group 16-18 years, 24.7% in the 19-21 years and 20.8% in the 22-24 years; 72% were female and the vast majority were portuguese (93.2%) and lived in the region of Lisbon and Tagus Valley (82.4%); 79.7% were students, of which 60.8% attended higher education and 39.2% secondary education or equivalent professional course.

In surveying the AYAs' opinions on what would change with anti-SARS-CoV-2 vaccination, the opinions were complementary. 10.6% agreed that "Quickly the transmission between people will decrease, and allow us to return to normality"; 74.7% that vaccination "Will take time to have an effect, only when 70% of the population is vaccinated will we be able to return to normality"; 72.4% consented that "Wearing masks and physical distancing will remain part of our lives for a long time." 29.6% admitted that "Even with the vaccine and the pandemic eradicated, our lives will never be the same"; and only 3% agreed that the vaccination "Will not change anything, no vaccine is 100% effective". In the open response option, only 15 responses were given, which stated that people would take the vaccine and move on from containment care, boosting the spread of the virus; that a vaccine takes 10 years to develop, and that this one took a year, so its safety is doubtful; and that the virus has mutated, so new containment may be neces-

sary and that the measures imposed by the Directorate-General for Health (2021) which include mass testing, contact identification and isolation cannot be relaxed.

The AYAs were asked about the advantages and fears in relation to them. In this group of questions, 24.7% of the AYA agreed that "The use of masks and physical distance will not be effective in combating the pandemic, only with vaccination will we be able to extinguish COVID-19."; 50.2% that "Being vaccinated can help prevent further complications, even if you get infected." and 81% that "Being vaccinated can help protect people, especially those at greatest risk." A percentage of 9.1% agreed with the statement "I do not trust the safety and effectiveness of vaccines."; they have some doubts regarding their achievements, with 37.8% agreeing "I am afraid of the adverse effects of vaccination."

In a total of 9 responses to the open response option, they focused on insecurities about the vaccination, with the AYAs stating that they were afraid that it would become mandatory; that even if they had followed all the procedures and passed the tests, testing a vaccine in such a short time made it unreliable; and that its long-term effects were not accurately and concretely evaluated.

Finally, when asked whether the vaccine should be for all or for specific groups, 55.6% argued that it should be for all, 33.2% as planned by the Government: in 3 phases, excluding pregnant women and children, and 11.3% for specific groups. Those who advocated that it should be aimed at speci-

fic groups prioritised the elderly (9%), health professionals (8.1%) and the chronically ill (7.5%) (See Table 1).

Discussion and conclusions

This study carried out with adolescents and young adults aged 16-24 years, focused on the study of their knowledge related to the anti-SARS-CoV-2 vaccination, along with the investigation of their perception of the advantages, fears and opinions.

Our results show that a large majority of AYAs are informed about the general aspects of the pandemic, confirming that the vaccination will take time to have an effect, that the return to normality will only occur when 70% of the population is vaccinated, and that the wearing of masks and physical distance will last. Even with a vaccine and the pandemic eradicated, 1 in 3 AYA considers that life will never be the same again. Information that is frequently conveyed in the media in communications from the Government of Portugal and health stakeholders.

Confident of its advantages, in the fact that vaccination can help protect people, particularly risk groups, and that inoculation can help prevent further health complications in case of disease, information confirmed by health entities (DGH, 2020; American Psychological Association, 2021), also reveal some fear of its adverse effects. In a work to promote confidence in the immunisation process, the American Psychological Association (APA, 2021), presents a set of strategies based on community involvement: (i) engage community leaders and leverage effective communica-

Table 1 – Vaccination, Advantages and Fears – Portugal – 2020/2021

Questions		% Agreement	% Non Agreement
Vaccination	Quickly the transmission between people will decrease, and allow us to return to normality.	10.6	89.4
	It will take time, only when 70% of the population has been vaccinated will we be able to return to normality.	74.7	25.3
	The wearing of masks and social distancing will continue to be part of our lives for a long time.	72.4	27.6
	Even with the vaccine and the pandemic eradicated, our lives will never be the same.	29.6	70.4
	Nothing will change, no vaccine is 100% effective.	3	97
Advantages and Fears	The use of masks and social distancing will not be effective in fighting the pandemic, only with vaccination will we be able to extinguish COVID-19.	24.7	75.3
	Getting vaccinated can help prevent further complications, even if you get infected.	50.2	49.8
	Getting vaccinated can help protect people, especially those most at risk.	81	19
	I do not trust the safety and effectiveness of vaccines.	9.1	90.9
	I am afraid of the adverse effects of vaccination.	37.8	62.2
Take vaccine	The vaccine should be for everyone.	55.6	
	The vaccine should be as planned by the Government: 3 phases, excluding pregnant women and children	33.2	
	The vaccine should be for specific groups.	11.3	
Specific groups	Older	9	91
	Younger	0.7	99.3
	Chronically ill	7.5	92.5
	Governments	1.1	98.9
	Health Professionals	8.1	91.9
	Education professionals	3	97
	Police forces	2.3	97.7
	Supply staff	1.4	98.6

tion with community members; (ii) establish strategic partnerships that include the needs of marginalised and vulnerable populations; (iii) facilitate access to vaccination spaces; (iv) have avenues of connection with parents and guardians through multiple means of communication; (v) identify doubts and concerns in advance and prepare in advance for anti-vaccination perspectives; (vi) include children and youth in the communication of vaccination behaviours; (vii) ensure collaboration between

public health professionals, health institutions, researchers and community leaders. For increased uptake of vaccination, informing the population about the safety and efficacy of the anti-SARS-CoV-2 vaccine should be the main focus of health authorities (APA, 2021). In an attempt to inform the population, the Directorate-General for Health (Ministry of Health, 2021c) developed a video explaining the vaccination phases, the efficacy of vaccines, their safety and quality. The reflection to which this

study leads us is whether its dissemination is being effective in all groups and youth involvement represents a positive response in the dissemination of the message.

Despite the fear of adverse side effects, half of the AYA believe that the vaccine should be for all, and one third that the Government's recommendations should be followed, in 3 phases initially planned. Their inclusion in the vaccination may be related to the AYAs' perception of the pandemic, since they perceive it as threatening (50.2% responded that being vaccinated can help avoid further complications, even if infected; and 81% that being vaccinated can help protect people, especially those most at risk). Other studies point to a higher adherence to vaccination when the disease is perceived as a threat to oneself (Head et al., 2020; Khubchandani et al., 2020).

A study conducted in Portugal (Soares et al., 2021), focusing on the factors associated with the intention to delay or refuse taking anti-COVID-19 vaccines, shows that being younger is one of the factors.

As the time period of the study was marked by numerous news in the media, related to the adverse effects and efficacy of vaccines, and the discovery of new, more infectious variants, it is believed that young people's perceptions regarding vaccination may have been influenced. In a study developed by Kaplan and Milstein (2021), related to three factors of vaccination: probability of protection against COVID-19, minor side effects and serious adverse reactions, it was found that with announcements that vaccines were 95% effective, the probability of taking the vaccine showed a

significant (albeit small) increase. The authors also showed that the expected benefit is more influential than the expected side effects.

Based on the knowledge revealed about the general aspects of the pandemic, it is believed that this work will contribute to raising awareness of the importance of AYA involvement in issues that affect them, in this case vaccination; and alerting health policy makers to the need to deconstruct fears of adverse effects by this group, informing them, listening to their fears, and truly including them in the process.

With regard to the strengths and limitations of the study, the first limitation is related to the large majority of female respondents, a fact which has been shown in other psychosocial studies addressed to AYA (AUTORS, 2020).

The second limitation relates to the fact that most respondents attended higher education, which may also affect the results of this study, since related literature points out gender and education as determining factors in the use of the anti-COVID-19 vaccine.

The third is related to the predominance of responses in the Lisbon and Tagus Valley region. The fact that the highest number of cases in the third pandemic wave was also registered in this region may have influenced their perception of the disease as representing a greater risk to themselves and their community, and may have altered their perception of taking the vaccine.

The fourth and last is related to SARS-CoV-2 containment measures, which made access to the target population difficult. The data collection methodology was exclusively online, which did not allow a greater depth of respon-

ses. And lastly, the difficulty in comparing the results with similar studies, since they were not found in the literature review.

To our knowledge this is the first study to give AYAs a Voice regarding anti-COVID-19 vaccination of their generation. The second strength, is associated with the mixed methodology used (qualitative and quantitative), which allowed the AYAs to have a Voice in the first person and their responses were not limited to the options presented.

Discussion topic: Aware of the advantages of vaccination, they also reveal some fears of adverse effects, claiming that the vaccines were made available in a short period of time and the medium and long term effects and impacts on health are unknown. A fear that should be taken into consideration from an information point of view, since it is felt by 1/3 of the respondents. The involvement of young people in issues that directly affect them has been widely encouraged (e.g. Branquinho et al., 2020), and can be a solution in the work of promoting greater confidence in vaccination.

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