



EXAMINATION BOOKLET

TYPE A

Faculty of Health Science

Grado en Medicina – Entrance Examination

27/May/2023

1. Which of the following is NOT a property of water?
 - A. It is an electric dipole
 - B. It is a good solvent of nonpolar molecules
 - C. It is liquid at room temperature
 - D. It has a high specific heat

2. What do living beings use buffer systems for?
 - A. To raise their salt concentration
 - B. To ensure that their pH varies according to the medium
 - C. To keep their pH constant
 - D. To control the salinity of the medium

3. The plasma membrane is semipermeable, therefore if red blood cells are introduced into a hypotonic solution:
 - A. They will suffer pressure from the entry of salts
 - B. They will suffer plasmolysis due to the exit of salts
 - C. They would wrinkle from the lost of water
 - D. They would swell and suffer hemolysis from the entry of water

4. A basic solution is one in which:
 - A. $[H^+] = [OH^-]$ and $[H^+] = 10^{-7}M$
 - B. $[H^+] > [OH^-]$ and $pH < 7$
 - C. $[H^+] < [OH^-]$ and $pH = 7$
 - D. $[H^+] < [OH^-]$ and $pH > 7$

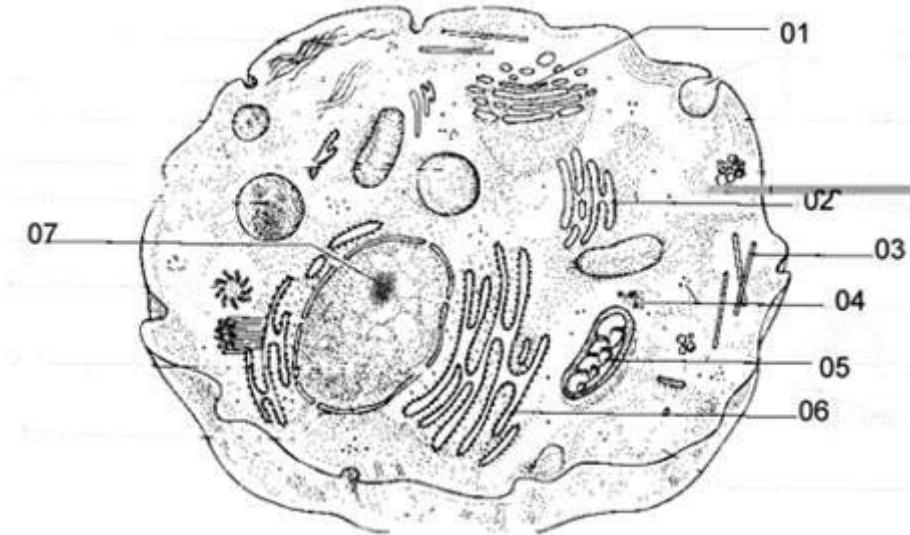
5. Triacylglycerols are composed of:
 - A. A glycerol backbone
 - B. Three fatty acids
 - C. Amide linkages between the fatty acids and the glycerol
 - D. Both A and B above

6. The macromolecules that serve in the storage and transmission of genetic information are:
 - A. Carbohydrates
 - B. Lipids
 - C. Membranes
 - D. Nucleic acids

7. Which of the following statements is correct about enzymes?
 - A. All enzymes are made up of only amino acids
 - B. Enzymes can sometimes slow the rate of reactions
 - C. Enzymes have no impact on reaction temperatures
 - D. Enzymes are heat and pH sensitive

8. Starch and glycogen are both polymers of:
- A. Fructose
 - B. Glucose 1-phosphate
 - C. Sucrose
 - D. Alpha-D-glucose
9. The term cell was first proposed by:
- A. Pasteur
 - B. Hooke
 - C. Wallace
 - D. Leeuwenhoek
10. The endosymbiotic theory suggests that an aerobic prokaryote may be the precursor of _____, in the animal eukaryotic cell:
- A. Chloroplasts and mitochondria
 - B. Chloroplasts
 - C. Cell nucleus
 - D. Mitochondria
11. Darwin suggested that evolution takes place through:
- A. Artificial selection
 - B. Changes in individuals of a species
 - C. Natural selection
 - D. Homeostatic responses to each change in the environment
12. Select the incorrect statement regarding eukaryotes and prokaryotes:
- A. Bacteria are prokaryotic cells
 - B. Prokaryotic cells have nuclei
 - C. Eukaryotic cells have organelles specialized in different functions
 - D. Prokaryotic cells are generally smaller than eukaryotic cells
13. Mitochondria:
- A. Lack ribosomes
 - B. Have 70S ribosomes
 - C. Have 80S ribosomes
 - D. May have different ribosomes depending on the species
14. The Na⁺/K⁺ pump transports ions inside and outside of the neuron, and spends an ATP molecule moving:
- A. Three Na⁺ into the cell and two K⁺ out of it
 - B. Three Na⁺ out of the cell and two K⁺ into it
 - C. It only transports K⁺ out of the cell
 - D. None of the above is true

15. Look at the following figure and answer:



- A. 01 Golgi apparatus, 02 smooth endoplasmic reticulum, 06 rough endoplasmic reticulum
- B. 05 mitochondria, 07 nucleolus, 03 flagellum
- C. 07 centrosome, 06 Golgi apparatus
- D. None of the above is true
16. Which of the following types of transport exclusively moves substances out of a cell?
- A. Transcytosis
- B. Pinocytosis
- C. Exocytosis
- D. Receptor-mediated endocytosis
17. Which of the following equations represents anaerobic respiration?
- A. Carbohydrate + Oxygen → Energy + Carbon Dioxide + Water
- B. Carbohydrate → Energy + Lactic Acid + Carbon dioxide
- C. Carbohydrate → Energy + Lactic Acid
- D. Carbohydrate + Oxygen → Energy + Ethanol + Carbon dioxide
18. During respiration, energy is retrieved from the high-energy bonds found in certain organic molecules. Which of the following, in addition to energy, are the ultimate products of respiration?
- A. CO₂, H₂O
- B. CH₃, H₂O
- C. CH₂OH, O₂
- D. CO₂, O₂

19. When blood glucose is abnormally high, the pancreas releases:
- A. Epinephrine
 - B. Glucagon
 - C. Glucose
 - D. Insulin
20. Which of the following stages in the breakdown of the piece of toast you had for breakfast generates the most ATP?
- A. The digestion of starch to glucose
 - B. Glycolysis
 - C. The citric acid cycle
 - D. Oxidative phosphorylation
21. Which of the following processes do not take place in the mitochondria?
- A. Citric acid cycle
 - B. Conversion of pyruvate to activated acetyl groups
 - C. Oxidation of fatty acids to acetyl CoA
 - D. Glycogen breakdown
22. A diploid cell containing 32 chromosomes will make a haploid cell containing ____ chromosomes.
- A. 8
 - B. 16
 - C. 30
 - D. 64
23. In the ABO blood group system in humans, if a person of type-B blood has children with a person of type-AB blood, what blood types could their children have?
- A. Type-AB, type-A, and type-B
 - B. Type-B and type-AB
 - C. Type-AB, type-A, type-B, and type-O
 - D. Type-A and type-B
24. Red-green colorblindness is an X-linked recessive disorder. Jacob's paternal grandfather and father are both colorblind, but his mother has two normal alleles. What is the probability that Jacob is red-green colorblind?
- A. 25%
 - B. 50%
 - C. 0%
 - D. 100%

25. A condition is known to be X-linked dominant. An affected man and unaffected woman have a son. What is the likelihood that the son will be affected?
- A. There is a one in two chance that the son will be affected
 - B. The son cannot be affected
 - C. The son will be affected
 - D. There is a one in four chance the son will be affected
26. The expression of a gene is called _____ while the allelic combinations of genes are referred to as _____
- A. Karyotype, phenotype
 - B. Phenotype, genotype
 - C. Meiosis, mitosis
 - D. Phenotype, autosome
27. Introns:
- A. Are frequently present in prokaryotic genes but are rare in eukaryotic genes
 - B. Are spliced out before transcription
 - C. Are translated but not transcribed
 - D. Can occur many times within a single gene
28. The fundamental repeating unit of organization in a eukaryotic chromosome is the:
- A. Centrosome
 - B. Lysosome
 - C. Microsome
 - D. Nucleosome
29. The process of DNA replication requires that each of the parental DNA strands be used as a _____ to produce a duplicate of the opposing strand.
- A. Catalyst
 - B. Competitor
 - C. Template
 - D. Copy
30. The classic experiments conducted by Meselson and Stahl demonstrated that DNA replication is accomplished by employing a _____ mechanism.
- A. Continuous
 - B. Semiconservative
 - C. Dispersive
 - D. Conservative
31. Which of the following events does not usually occur during interphase?
- A. Cells grow in size
 - B. The nuclear envelope breaks down
 - C. DNA is replicated
 - D. The centrosomes are duplicated

32. Alexander Fleming discovered:
- A. Cephalosporin
 - B. Penicilin
 - C. Sulphonamides
 - D. A fungi, *Penicillium notatum*
33. Which of the following statements is true about bacterial endotoxins?
- A. They all work in different ways
 - B. They are only produced by Gram-negative bacteria
 - C. They are only produced by Gram-positive bacteria
 - D. They are anchored to the peptidoglycan
34. A serious disease outbreak that affects a large portion of the world is called a(n):
- A. Epidemic
 - B. Pandemic
 - C. Endemic
 - D. Zoonosis
35. Animal viruses enter eukaryotic cells by:
- A. Attachment to pili
 - B. Diffusion
 - C. Endocytosis
 - D. Budding
36. Solutions may be:
- A. Solids, liquids, or gases
 - B. Liquids only
 - C. Liquids or gases
 - D. None of the above
37. The elements located in group 17 (7A) of the periodic table are called:
- A. Alkali metals
 - B. Noble gases
 - C. Chalcogens
 - D. Halogens
38. $C_3H_4O_4 + 2 C_2H_6O \rightarrow C_7H_{12}O_4 + 2 H_2O$
When 15 grams of each reactant were mixed, the yield of $C_7H_{12}O_4$ was 15 grams. What was the percentage yield? Relative Atomic Masses: O = 16, C = 12, H = 1
- A. 100 %
 - B. 75 %
 - C. 65 %
 - D. 50 %

39. When $\text{Fe}(\text{NO}_3)_2$ dissolves in water, what particles are present in the solution?

- A. Fe^+ and $(\text{NO}_3)^{2-}$
- B. Fe^{2+} and 2NO_3^-
- C. Fe and 2NO_3
- D. Fe and N_2 and 3O_2

40. $\text{Al} + \text{H}^+ \rightarrow \text{Al}^{3+} + \text{H}_2$

When the reaction above is correctly balanced, the coefficients are:

- A. $1, 2 \rightarrow 1, 1$
- B. $1, 3 \rightarrow 1, 2$
- C. $2, 3 \rightarrow 2, 3$
- D. $2, 6 \rightarrow 2, 3$

41. The energy required to remove an electron from an atom in its ground state, is known as the:

- A. Potential energy
- B. Activation energy
- C. Electron affinity
- D. Ionization energy

42. A molecule of CS_2 contains:

- A. Two single bonds
- B. Two double bonds
- C. One single bond and one double bond
- D. One single bond and one triple bond

43. The strongest attractive forces from those, listed below, are:

- A. Covalent bonds
- B. Ion-dipole forces
- C. Dipole-dipole forces
- D. London dispersion forces

44. The rate of a chemical reaction is affected by:

- A. The concentration of the reactants
- B. The temperature of the reaction
- C. The presence of a catalyst
- D. All of the above

45. A catalyst increases the rate of a reaction by:

- A. Causing the molecules to move more rapidly
- B. Causing the molecules to collide more frequently
- C. Lowering the energy of activation
- D. All of the above

46. $\text{CO}_2 + \text{H}_2 \leftrightarrow \text{CO} + \text{H}_2\text{O}$
If all species are gases and H_2 is added, the amount of CO present at equilibrium will:
- A. Increase
 - B. Decrease
 - C. Remain unchanged
 - D. Disappear
47. What is the pH of a 0.0400 M aqueous solution of KOH?
- A. 12.60
 - B. 10.30
 - C. 4.00
 - D. 1.40
48. Which pair of compounds will form a buffer solution when dissolved in water in equimolar amounts?
- A. HCl and KCl
 - B. HNO_3 and NaNO_3
 - C. HCl and NH_4Cl
 - D. NH_3 and NH_4Cl
49. The oxidation state of manganese in the permanganate ion (MnO_4^-) is:
- A. -1
 - B. +2
 - C. +4
 - D. +7
50. Transition metals differ from main-group metals in that transition metals:
- A. Have relatively low densities
 - B. Are all the same color
 - C. Cannot react with nonmetals
 - D. Have multiple oxidation states
51. Find the gradient of a straight line PQ with the points P(5,3) and Q(8,12)
- A. 3
 - B. 1
 - C. -1
 - D. 2
52. Find $\frac{dy}{dx}$ at $x = 3$ for $y = 0.5x^4 - 0.75x^3 + 17$
- A. $\frac{dy}{dx} = 23.25$
 - B. $\frac{dy}{dx} = 33.75$
 - C. $\frac{dy}{dx} = 27.125$
 - D. $\frac{dy}{dx} = 18$

53. Find the inverse of the function $f(x) = 0.3^x$
- A. $f^{-1}(x) = 0.3 \log x$
 - B. $f^{-1}(x) = x^{0.3}$
 - C. $f^{-1}(x) = \log 0.3 x$
 - D. $f^{-1}(x) = 0.3/x$
54. Find $2A + 3B$ for $A = \begin{bmatrix} 2 & 3 \\ 1 & 5 \end{bmatrix}$ and $B = \begin{bmatrix} 0 & 4 \\ 3 & 1 \end{bmatrix}$
- A. $\begin{bmatrix} 4 & 17 \\ 10 & 21 \end{bmatrix}$
 - B. $\begin{bmatrix} 4 & 16 \\ 9 & 19 \end{bmatrix}$
 - C. $\begin{bmatrix} 4 & 12 \\ 15 & -4 \end{bmatrix}$
 - D. $\begin{bmatrix} 4 & 18 \\ 11 & 13 \end{bmatrix}$
55. Find $2A - 3B + 4C$ for $A = \begin{bmatrix} 3 & 5 \\ -1 & 4 \end{bmatrix}$, $B = \begin{bmatrix} 0 & -5 \\ 7 & 8 \end{bmatrix}$ y $C = \begin{bmatrix} -1 & 2 \\ -5 & 3 \end{bmatrix}$
- A. $\begin{bmatrix} -11 & 18 \\ -34 & 3 \end{bmatrix}$
 - B. $\begin{bmatrix} 2 & 33 \\ -43 & -4 \end{bmatrix}$
 - C. $\begin{bmatrix} 7 & -23 \\ 18 & 5 \end{bmatrix}$
 - D. $\begin{bmatrix} 3 & 7 \\ -23 & 5 \end{bmatrix}$
56. Find A^2 for $A = \begin{bmatrix} 2 & 1 \\ 3 & 4 \end{bmatrix}$
- A. $\begin{bmatrix} 4 & 1 \\ 9 & 16 \end{bmatrix}$
 - B. $\begin{bmatrix} 5 & 3 \\ 15 & 16 \end{bmatrix}$
 - C. $\begin{bmatrix} 7 & 6 \\ 18 & 19 \end{bmatrix}$
 - D. None
57. During the exam session, the professor graded his students' tests. Out of 100 students, 15 got "A", 28 got "B", 40 got "C", 17 students failed the test. What was the probability $p(A)$ not to fail this test?
- A. 0.17
 - B. 0.83
 - C. 0.15
 - D. 0.5

58. There are 6 blue and 9 red pens in the box. What is the least number of pens you will need to randomly select to pick a blue pen with guarantee?
- A. 1
 - B. 10
 - C. 6
 - D. 15
59. A group of scientists are providing an experiment on the simultaneous tossing of 5 coins. The result of the experiment is the final number of tails that will appear. How many possible consequences are possible by the end of this experiment?
- A. 10
 - B. 5
 - C. 6
 - D. 3
60. After some calculations, it was determined that the probability of hitting the target is 25 %. Is it possible that after 100 shots there will be 98 hits?
- A. Yes, only if probability of hitting the target is increased
 - B. Yes, only if number of hits will increase
 - C. Yes
 - D. No
61. Determine the integral: $\int 5x^4 dx$
- A. $0.8x^4 + C$
 - B. $x^4 + C$
 - C. $1.25x^5 + C$
 - D. $x^5 + C$
62. Determine the integral: $\int 17 dx$
- A. $x^{17} + C$
 - B. $1.7x + C$
 - C. $17x + C$
 - D. $17x^2 + C$
63. Determine the integral: $\int 9^x dx$
- A. $9^x + C$
 - B. $9x + C$
 - C. $\ln 9^x + C$
 - D. $(9^x / \ln 9) + C$
64. Which number satisfies the condition? $\begin{cases} x > 0 \\ x \in (-1; 8] \end{cases}$
- A. 0
 - B. 8
 - C. -4
 - D. -1

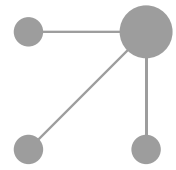
65. Which number belongs to the interval: (5;10]?
- A. 20
 - B. 6.25
 - C. 4
 - D. 5

Read carefully the article by Otero-Barrós & Durán-Parrondo (2023), attached to this exam and answer:

66. What does the following statement in the article by Otero-Barrós & Durán-Parrondo (2023), on the lethality of pneumonia, mean: "In fact, it is estimated that pneumonia, one of the most frequent complications of influenza, has a lethality of 0.14 to 0.45% in children under 5 years of age".
- A. That between 0.14 and 0.45% of children under 5 years of age affected by influenza die from pneumonia resulting from influenza
 - B. That between 1.4 and 4.5 out of every 1000 children under 5 years of age with pneumonia die from this disease
 - C. That between 1.4 and 4.5 out of every 100 children under 5 years of age with pneumonia die from this disease
 - D. That up to 1.4 out of every 4.5 children under 5 years of age will be at risk of dying from influenza-associated pneumonia
67. Which of the following options is incorrect regarding the social or health impact of influenza in the pediatric population?
- A. Absenteeism from work by parents/<1.3 and > 6 days
 - B. Hospitalization rate/up to 20% of confirmed cases
 - C. 90,000,000 cases of pneumonia in children under 5 years of age/up to 111,500 deaths in children under 5 years of age
 - D. Antibiotic prescription/7-55% of confirmed cases
68. Which agency, institution, or geopolitical organization does not advocate routine influenza vaccination for persons 6-59 months of age?
- A. WHO
 - B. Autonomous Community of Galicia
 - C. Vaccine Advisory Committee of the Spanish Association of Pediatrics
 - D. All of the above advocate for systematic influenza vaccination

69. The authors of the article state that it is necessary to:
- A. Vaccinate children in Galicia under 6 months of age with the influenza vaccine.
 - B. Eliminate the influenza vaccine from the vaccination schedule from children between 6 and 59 months of age.
 - C. Change the perception that influenza is a mild disease in pediatric age groups
 - D. Consider influenza as a common childhood disease
70. Regarding influenza, it is NOT true that:
- A. The highest incidence rate is observed in the age group 0 to 4 years old
 - B. It usually has a self-limited clinical course
 - C. The prescription of antipyretics or other medications for symptom control is infrequent
 - D. It can cause complications such as myocarditis, acute otitis media and pneumonia
71. The affiliation of the authors of the article corresponds to:
- A. Dirección General de Salud Pública, Consejería de Sanidad de Galicia, Santiago de Compostela, A Coruña, Spain.
 - B. Anales de Pediatría Journal
 - C. World Health Organization
 - D. European Center for Disease Prevention and Control
72. Which recommendation arises from the Otero-Barrós & Durán-Parrondo article?
- A. Prescribe antibiotics in 7 to 55 % of confirmed cases of influenza
 - B. Raise awareness among health professionals of the importance of this disease in childhood
 - C. Vaccinate only children who present certain risk conditions
 - D. Implementing the influenza vaccination strategy without taking into account the coexistence with COVID-19
73. For influenza in children:
- A. Globally, between 28,000 and 111,500 children under 5 years of age die
 - B. There are between 1.7 and 2.8 pediatric consultations for each case
 - C. School absenteeism among children is estimated to be between 2.8 and 12 days
 - D. All of the above are impacts of influenza on the pediatric population

74. Based on the report of the influenza surveillance system in Spain for the 2021-2022 season, cited in the article by Otero-Barrós & Durán-Parrondo, the authors:
- A. Note that as in previous seasons, the increase in the incidence rate of influenza in the adult population precedes that in the pediatric population
 - B. Theorize that children play a role as vectors of transmission of influenza to their family and school environment, and to the rest of the community
 - C. Argue that the role of children as vectors of influenza transmission is related to factors such as unlimited immunity in children, and virus excretion at lower titers and for a longer period of time than in adults
 - D. Conclude that hygienic prevention measures in the pediatric population are ineffective
75. The hospitalization rate for influenza in childhood can reach 20% of confirmed cases, with an average hospital stay of 1.8 to 7.9 days. This means that:
- A. Out of every 100 confirmed cases, 20 may stay in hospital for an average hospital stay of 1.8 to 7.9 days
 - B. The average hospital stay for 2 out of every 100 cases is 1.8 to 7.9 days
 - C. The maximum length of hospital stay for 20% of confirmed cases is 7.9 days
 - D. 100% of confirmed cases will have an average hospital stay of 1.8 to 7.9 days



EDITORIAL

Systematic influenza vaccination in the pediatric population



Vacunación antigripal sistemática en población pediátrica

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The official lifespan immunization schedule of the Autonomous Community of Galicia (Spain) was recently published, and includes vaccination against influenza in children aged 6–59 months. Although several neighbouring countries have already expanded vaccination against influenza to include this age group (United Kingdom, Austria, Italy, etc.), Galicia is pioneering this initiative in Spain.

On the other hand, at the national level, the recommendation that still persists today is vaccination against influenza in children who, due to the presence of certain risk factors, are more vulnerable to severe disease or complications of influenza. However, a growing number of autonomous communities, following the recommendations of international agencies such as the World Health Organization or the European Centre for Disease Prevention and Control as well as domestic experts such as the Advisory Committee on Vaccines of the Asociación Española de Pediatría (Spanish Association of Pediatrics), is advocating for routine vaccination in this population.

The aim of vaccination against influenza is to reduce the morbidity and mortality associated with this disease and its impact on the community. And, in this sense, it is important

to reflect on the need to vaccinate the population of healthy children.

Influenza continues to be an underestimated disease in the paediatric population in terms of both its incidence and its severity. Whatever these perceptions may be, the scientific evidence shows a different reality.

On one hand, at the global level, influenza affects 90 million children aged less than 5 years annually, causing 10 million cases of pneumonia (1 million of which are severe) and resulting in the death of 28 000–111 500 children in this age group.¹

In Spain, the influenza surveillance report for the 2021–2022 season published by the National Centre of Epidemiology shows, as it did in previous seasons, that the incidence of influenza peaks in the 0-to-4 years age group (1521.4 cases per 100 000 children under 5 years), followed by the 5-to-14 years age group.²

Thus, influenza is not a banal disease in childhood, and, although it is usually self-limiting, it can cause complications such as pneumonia, acute otitis media or even severe diseases such as encephalitis or myocarditis that may be fatal. In fact, it is estimated that pneumonia, one of the most frequent complications of influenza, has a fatality rate of 0.14% to 0.45% in children aged less than 5 years.³ Although the risk of severe disease or death is higher in children with comorbidities, 50% of the children who die of influenza do not have any risk factors.⁴

On the other hand, in addition to the unquestionable benefits of paediatric vaccination at the level of the individual, it is also expected to be beneficial as a public health strategy

DOIs of original articles:

<https://doi.org/10.1016/j.anpede.2022.08.015>,

<https://doi.org/10.1016/j.anpede.2022.07.006>

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at the community level. And, at this level, it is important to take into account the impact of influenza not only on the health care system, but also on society.

In the health care field, the direct impact of influenza on the available resources is obvious. In the paediatric population, influenza is often subclinical or presents with nonspecific manifestations that make it difficult to distinguish it from other acute respiratory infections, which may lead to multiple visits to paediatric care services (1.7–2.8 visits per case), in addition to prescription of antibiotics (in 7%–55% of confirmed cases), antipyretics or other drugs for symptomatic treatment (in 76%–99% of confirmed cases), which in many cases are unnecessary. Furthermore, the associated hospitalization rate can be as high as 20% of confirmed cases, with the mean length of stay ranging from 1.8 to 7.9 days.⁵

As regards the impact on society, influenza in the paediatric age group indirectly places a significant burden due to school absenteeism, resulting in an estimated 2.8–12 days of missed school.⁵ This inevitably impacts parents both at home and at work, as they often need to miss work for 1.3–6 days⁵ to care for their children at home.

In addition to the different aspects of the burden of disease of influenza in children discussed thus far, it is also important to consider another factor: the impact on the adult population of paediatric infections.

Analysing the data of the influenza surveillance report for the 2021–2022 season published by the National Centre of Epidemiology,² we found that, consistent with previous seasons, the increase in incidence in the paediatric population predated the increase in incidence in the adult population. This phenomenon suggests that children are serving as influenza transmission vectors in the household and the larger community, including high-risk groups. This hypothesis is based on different factors, such as the limited immunity of children, the higher titres of virus shed by children, with longer shedding periods compared to adults, closer physical contact with other household members and poorer adherence to effective hygiene measures (hand and respiratory hygiene).

To address all these issues, there are several safe, efficacious and effective tools at our disposal. However, it is also true, as demonstrated by the COVID-19 pandemic, that nonpharmacological hygiene measures (hand hygiene, use of masks, social distancing etc.) are essential in infection prevention and control. However, as was also the case in the pandemic, vaccination is the measure that has proven most effective at preventing influenza and its complications, as shown in the study by Escandell-Rico et al⁶ published in the current issue of *ANALES DE PEDIATRÍA*. However, despite the scientific evidence on the efficacy and safety of vaccination against influenza, it continues to be a sporadic practice in children, even within risk groups. This was also the conclusion reached by the authors of another study published in the current issue of *ANALES DE PEDIATRÍA*, Díaz-García et al.⁷

We believe that both studies will encourage a reflection on the vaccination strategy that should be implemented to remedy or at least minimise the potential risks of influenza in the paediatric population.

The experience gained in the management of the COVID-19 pandemic should also be applied when it comes to implementing a strategy for vaccination against influenza. Thus, it is important to take into account the epidemiological changes in the circulation and transmission of influenza virus brought on by the pandemic, in addition to the coexistence of both viruses.

In our opinion, we need to change the perception that influenza is a mild disease in the paediatric population and that the associated costs and impact on society are negligible. Awareness must also be raised among health care professionals of the importance of this disease in childhood, in addition to promoting public health strategies promoting vaccination of the paediatric population, independently of the presence or absence of risk factors.

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