



# International Microbiota Observatory

L'Observatoire International  
des Microbiotes

Second wave

**Moroccan results**

A large, light-colored illustration of a diverse microbiome, featuring various shapes of bacteria and fungi, set against a dark blue background.

# Methods

## Methods

This international survey was conducted online in **11 countries** from January 26<sup>th</sup> – February 26<sup>th</sup>, 2024. **7,500 people** were interviewed in the 11 countries, among representative samples of the population aged 18 y.o. and more in each country.

*7 countries had already been surveyed in 2023.*



*4 countries have been added to the scope this year :*



United States of America (n=1,000)



Brazil (n=500)



Mexico (n=1,000)



France (n=1,000)



Portugal (n=500)



Spain (n=500)



China (n=1,000)



Morocco (n=500)



Poland (n=500)



Finland (n=500)



Vietnam (n=500)

An automated selection from the Ipsos Panel ensured representative samples in each country (gender, age, employment status and country region) based on quota method.

## Comments



**ALL COUNTRIES**

(n=7,500)

= Average response for all 7 countries.



= Focus on detailed results according to different criteria such as gender, age, presence of children under 3yo, individuals with health conditions.

 Significant differences vs total - superior

 Significant differences vs total - inferior

These coloured indications show results that are statistically different (above or below) the average for all respondents.

All results are presented in %.

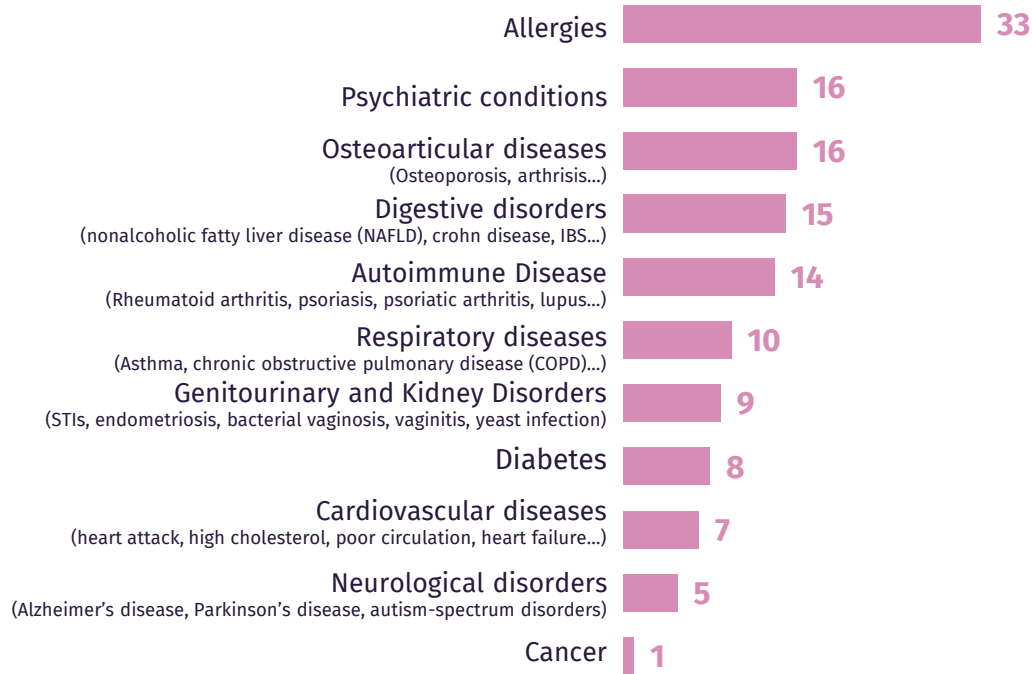


Some results have a low basis, results must be interpreted with cautious.



## People with current conditions A focus detailed throughout the report

**NEW QUESTION** RS10. Among the following health problems, indicate those you suffer from.  
Base: All respondents



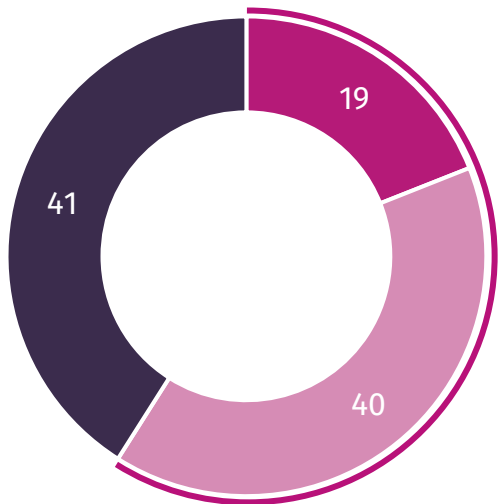


**A low awareness of the  
microbiome in Morocco**



# Less than 3 out of 5 Moroccans have already heard of the microbiome, a lower awareness than the average. And less than 1 out of 5 know exactly what it is.

Question 2. Have you ever heard of the "microbiome"?  
Base: All respondents

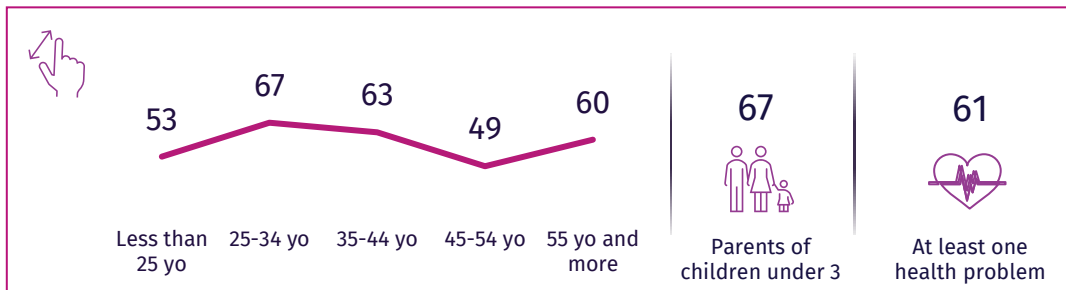


- Yes, and I know exactly what it is
- Yes, but I don't know exactly what it is
- No, I never heard about it

**59%** have already heard about the term microbiome



**70%**



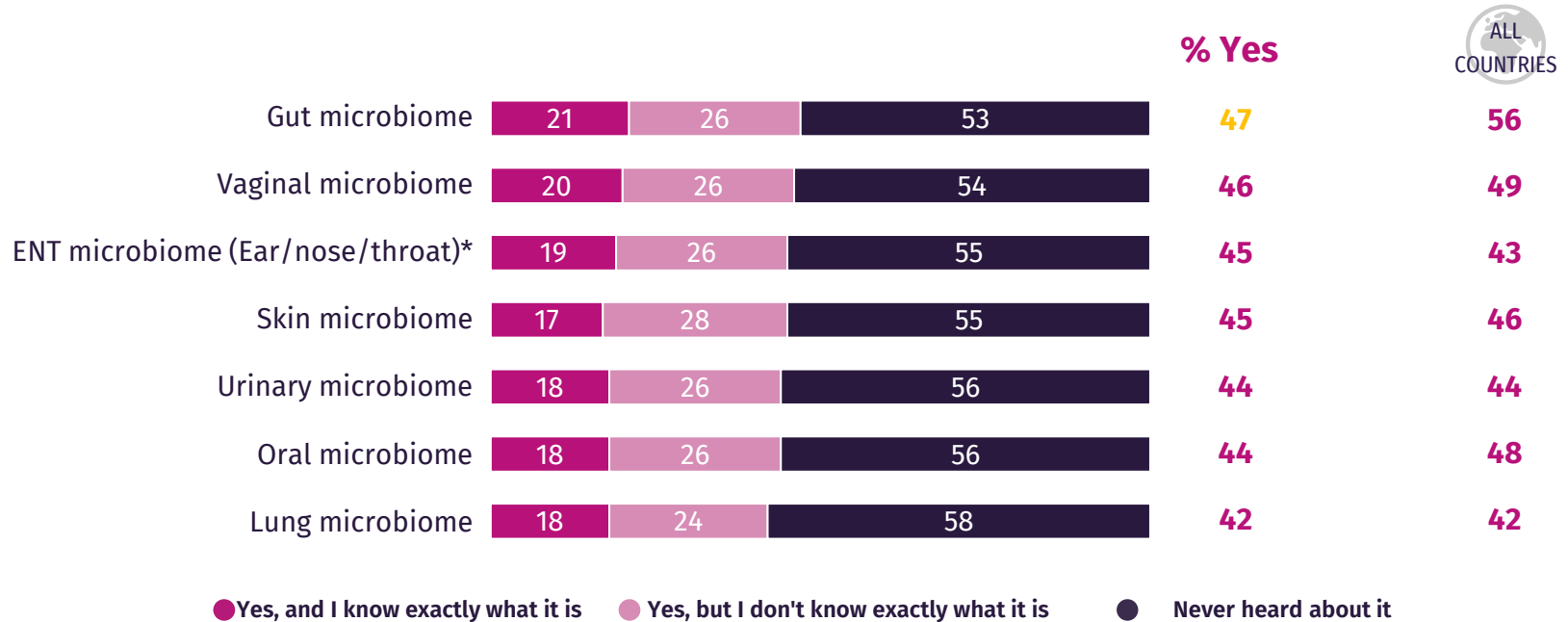
● Significant differences vs total - superior    ● Significant differences vs total - inferior



# Knowledge of the different types of microbiome is low among Moroccans.



Question 3. And more specifically, have you ever heard of the following terms?  
Base: All respondents



\*This item is more precise this year

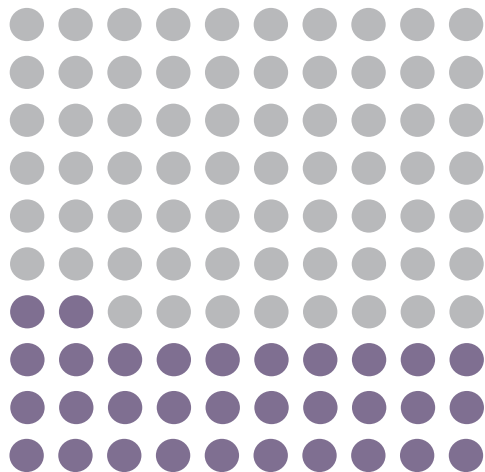


# Overall, a third of Moroccans know about the diversity of the microbiome. Within the country, only people aged 25-34 yo have a better awareness of microbiome.



Question 3. And more specifically, have you ever heard of the following terms?

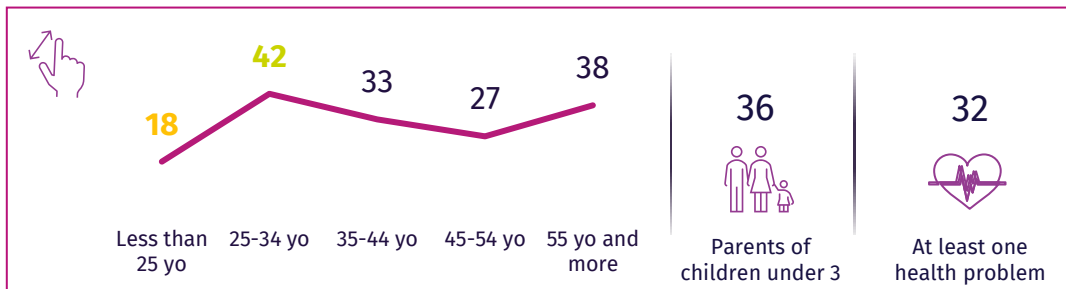
Base: All respondents



**32%** have already heard of each microbiome:  
Gut, vaginal, skin, lung, urinary, oral and ENT microbiome



**32%**



But only **8%** know precisely all of them



**8%**

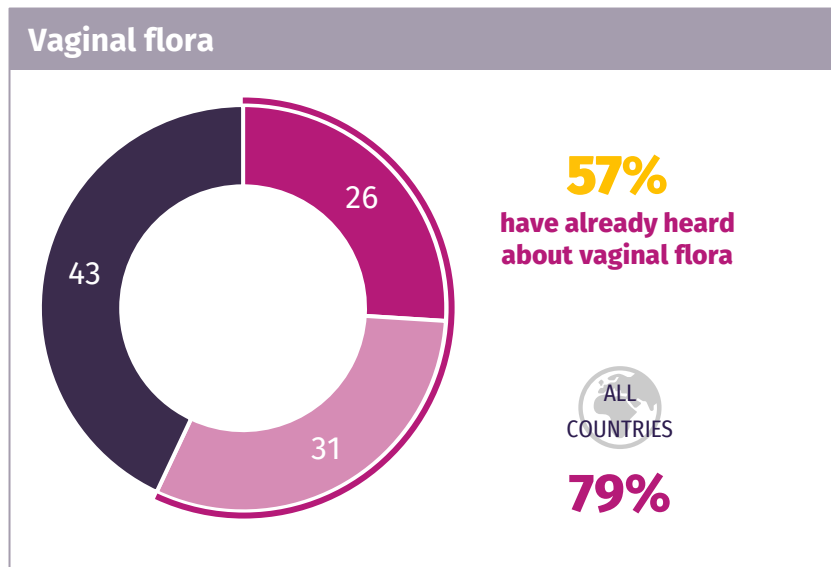
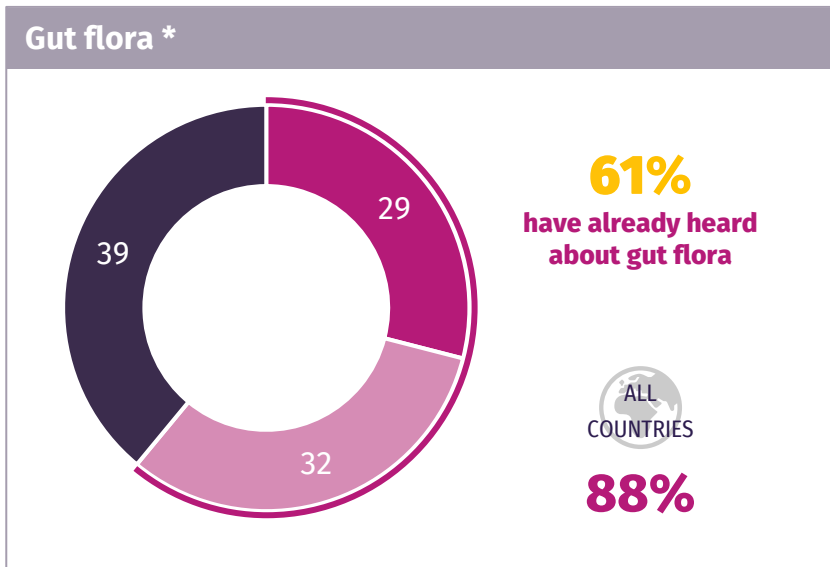




The term “flora” is less known in Morocco compared to other countries. However, it’s a more popular term than microbiome, even if many don’t know exactly what it is.



Question 2bis. And have you ever heard of these terms?  
Base: All respondents



● Yes, and I know exactly what it is    
 ● Yes, but I don't know exactly what it is    
 ● No, I never heard about it

\*The wording of this item was changed compared to last year

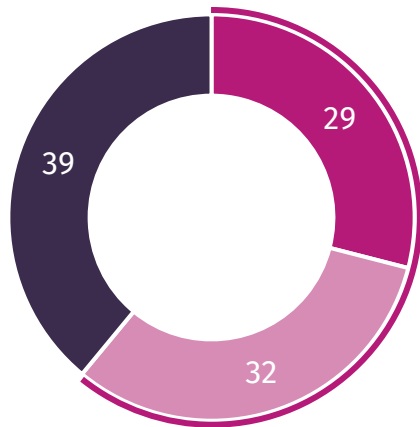


# Only 1 in 3 Moroccans know exactly what gut flora is, a similar level of awareness regardless of gender or age.



Question 2bis. And have you ever heard of these terms?  
Base: All respondents

## Gut flora \*

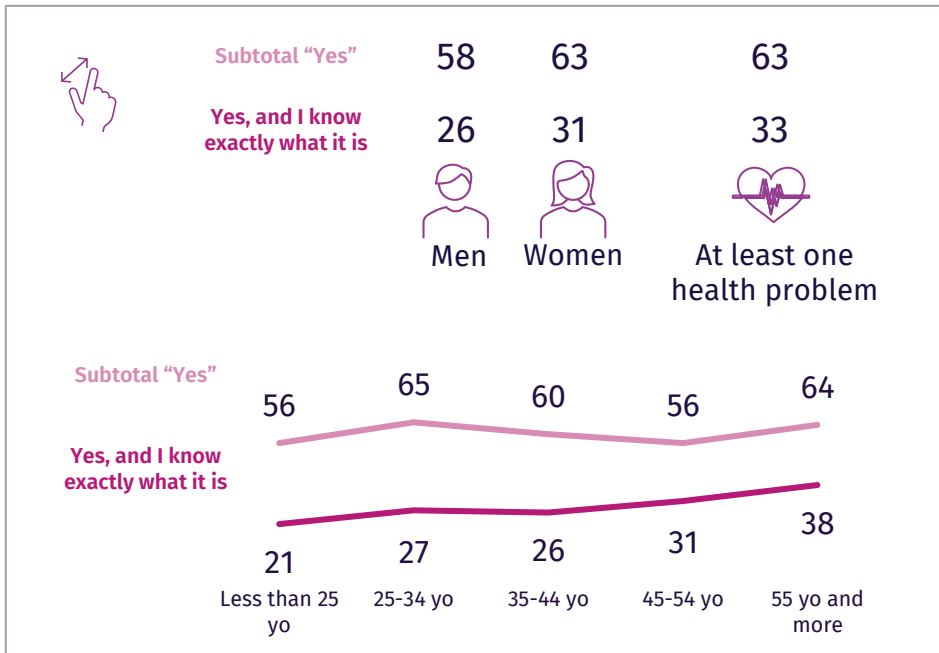


**61%**  
have already heard  
about gut flora



**88%**

- Yes, and I know exactly what it is
- Yes, but I don't know exactly what it is
- No, I never heard about it



\*The wording of this item was changed compared to last year

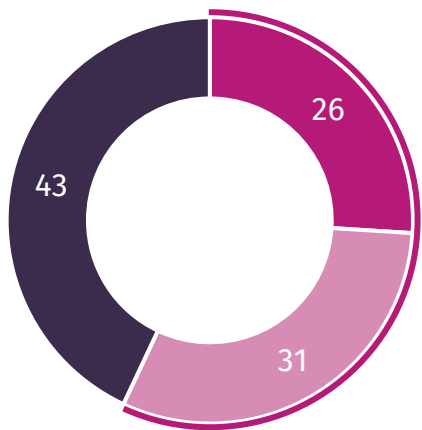


# Moroccans under 25 yo are less likely to know precisely what vaginal flora is.



Question 2bis. And have you ever heard of these terms?  
Base: All respondents

## Vaginal flora



**57%**  
have already heard  
about vaginal flora

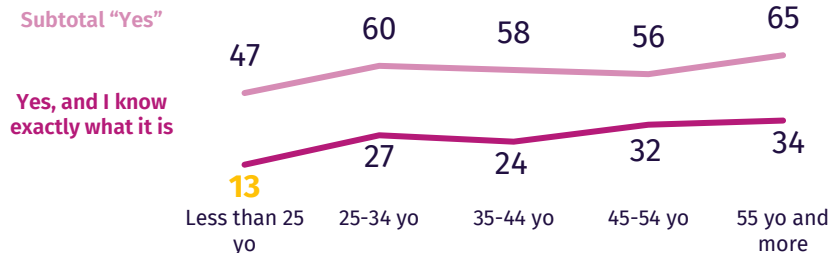


**79%**

- Yes, and I know exactly what it is
- Yes, but I don't know exactly what it is
- No, I never heard about it



	Men	Women	At least one health problem
Subtotal "Yes"	53	62	60
Yes, and I know exactly what it is	22	30	29





2

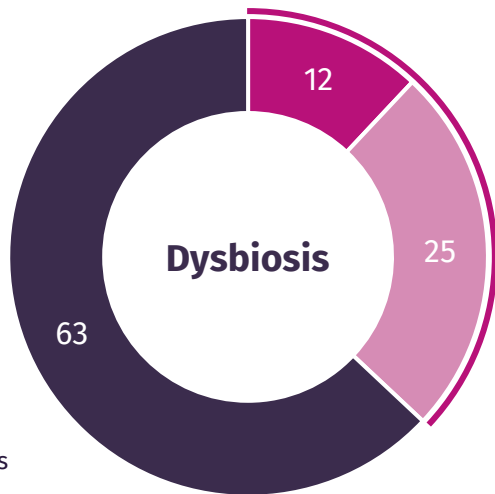
**Knowledge of the role and functions of microbiome is limited in Morocco**



# Dysbiosis is not a popular term among Moroccans. The term appears more familiar to the 25-34 yo age group.



Question 3. And more specifically, have you ever heard of the following terms?  
Base: All respondents

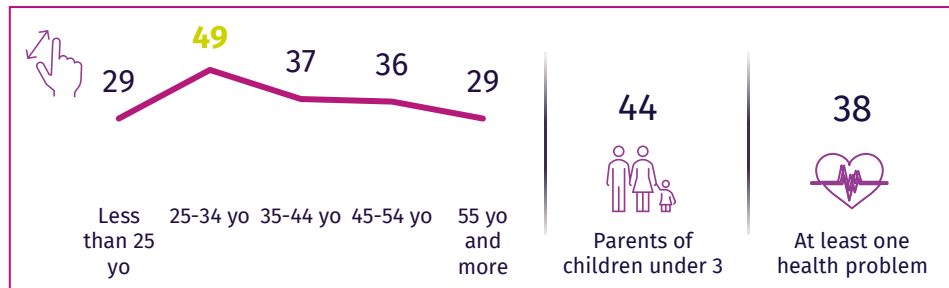


- Yes, and I know exactly what it is
- Yes, but I don't know exactly what it is
- Never heard about it

**37%** have already heard about the term 'dysbiosis'



**34%**



● Significant differences vs total - superior    ● Significant differences vs total - inferior

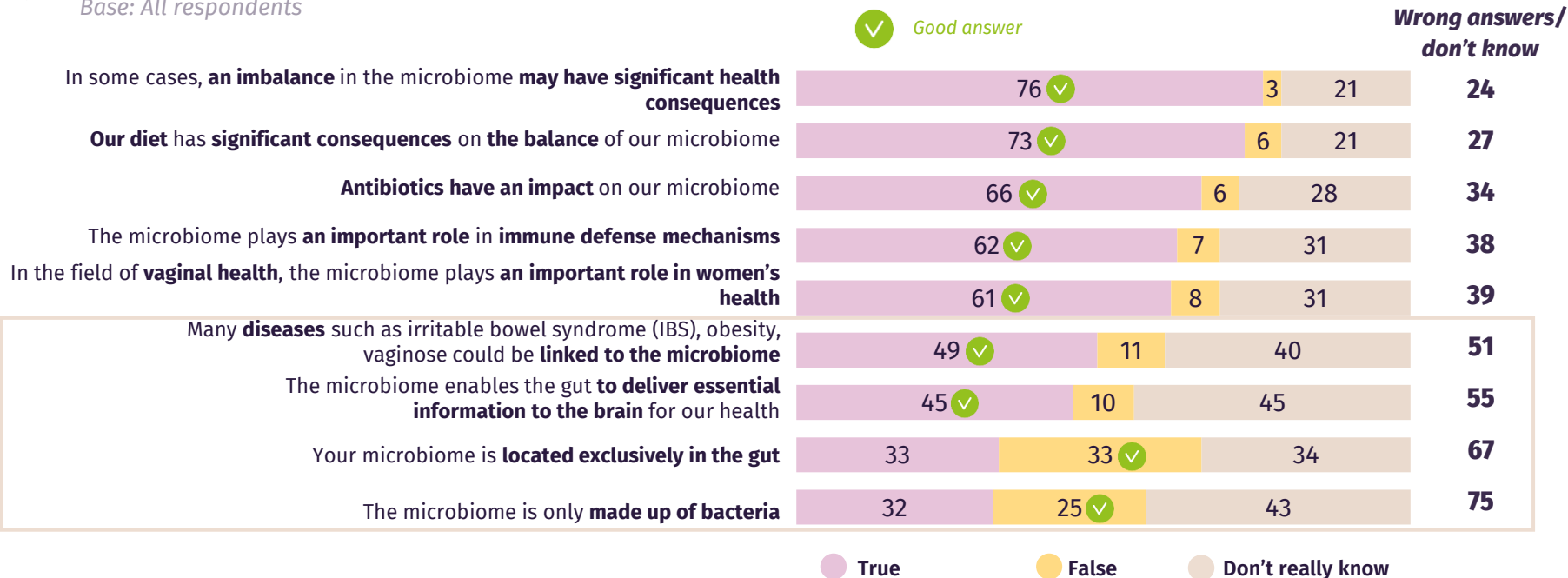


# Many microbiome aspects are not well known in Morocco: the potential link between the microbiome and some diseases, its diversity and its composition.



Question 4. For each of the following statements, tell us if you think it is TRUE or FALSE. If you are unsure about your answer, answer I do not really know.

Base: All respondents



● True
 ● False
 ● Don't really know

Definition displayed to respondents before this question: In the past, the term most commonly used was "flora" or "microflora", this term has now been renamed "microbiome".



## And Moroccans have less knowledge about microbiome compared to the average.

Question 4. For each of the following statements, tell us if you think it is TRUE or FALSE. If you are unsure about your answer, answer I do not really know.

Base: All respondents

% good answer	Total	ALL COUNTRIES
In some cases, <b>an imbalance</b> in the microbiome <b>may have significant health consequences</b>	76	77
<b>Our diet</b> has <b>significant consequences</b> on the <b>balance</b> of our microbiome	73	78
<b>Antibiotics</b> have an <b>impact</b> on our microbiome	66	70
The microbiome plays <b>an important role</b> in <b>immune defense mechanisms</b>	62	74
In the field of <b>vaginal health</b> , the microbiome plays <b>an important role in women's health</b>	61	68
Many <b>diseases</b> such as irritable bowel syndrome (IBS), obesity, vaginose could be <b>linked to the microbiome</b>	49	64
The microbiome enables the gut <b>to deliver essential information to the brain</b> for our health	45	53
Your microbiome is <b>located exclusively in the gut</b>	33	46
The microbiome is only <b>made up of bacteria</b>	25	28



## Moroccans aged under 25 yo appear to have a lower knowledge of the role and functions of the microbiome.



Question 4. For each of the following statements, tell us if you think it is TRUE or FALSE. If you are unsure about your answer, answer I do not really know.

Base: All respondents



5,6

4,9/9

Number of good responses on average



● Significant differences vs total - superior

● Significant differences vs total - inferior





3

**To maintain a balanced microbiome, Moroccans are likely to change their behaviors, even if they don't currently rely on probiotics or prebiotics.**

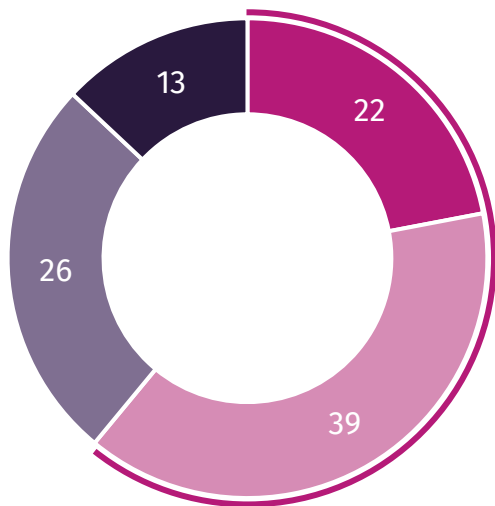


# More than half of Moroccans have changed their behaviors to keep their microbiome balanced and functioning as smoothly as possible.

NEW QUESTION

Question 10. And in your daily life, have you changed your behaviors to keep your microbiome as balanced and functioning as smoothly as possible?

Base: All respondents

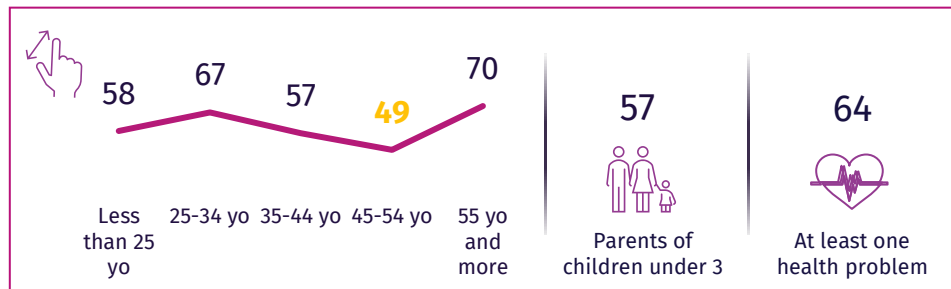


- Yes, a lot
- Yes, a little
- No, not really
- No, not at all

**61%** have changed their behaviors



**58%**



● Significant differences vs total - superior

● Significant differences vs total - inferior

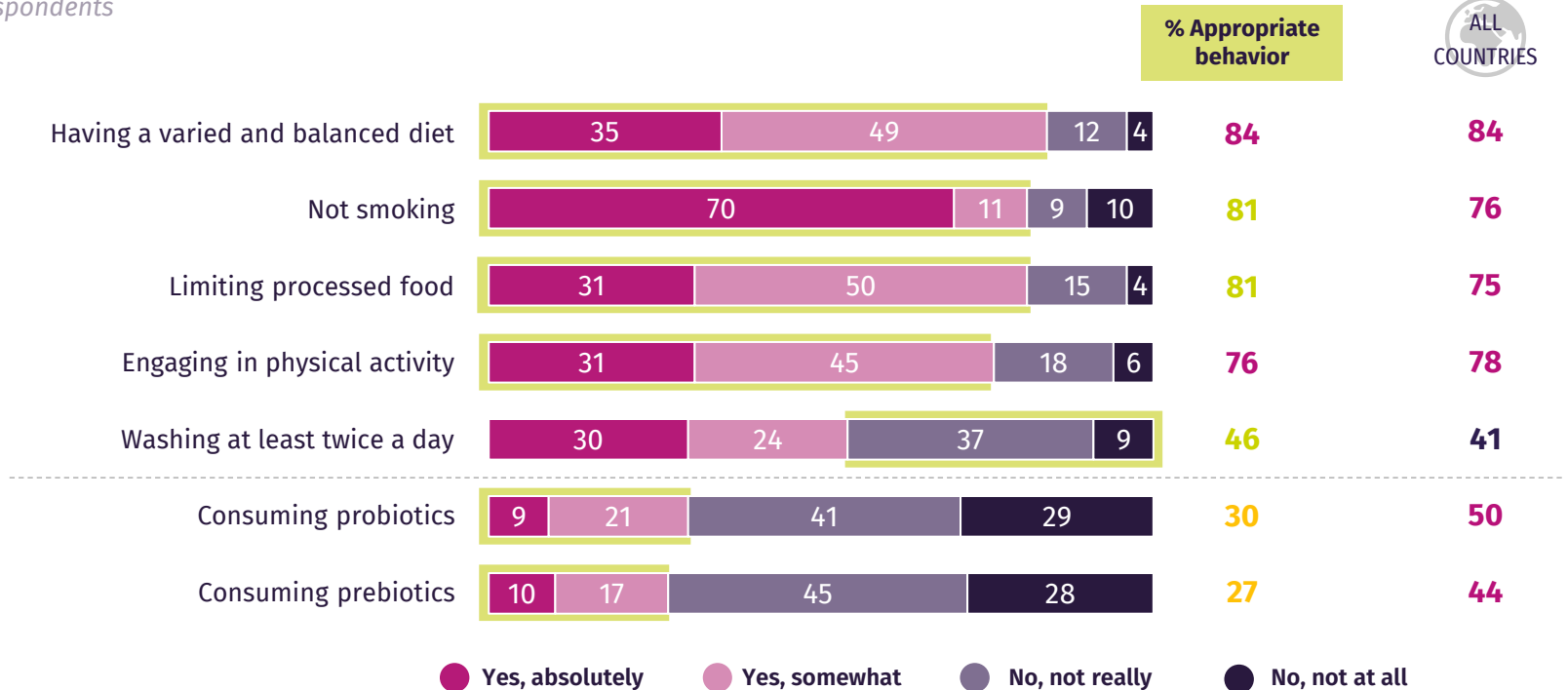


# Healthy behaviors are widely adopted by Moroccans, especially avoiding smoking and limiting processed food. However, only a minority consume probiotics and prebiotics, which is lower than in other countries.

**NEW QUESTION**

Question 11. In your daily life, do you regularly adopt the following behaviors?

Base: All respondents





# On average, Moroccans adopt fewer behaviors to preserve their microbiome than the average of the surveyed countries.

**NEW QUESTION**

Question 11. In your daily life, do you regularly adopt the following behaviors?

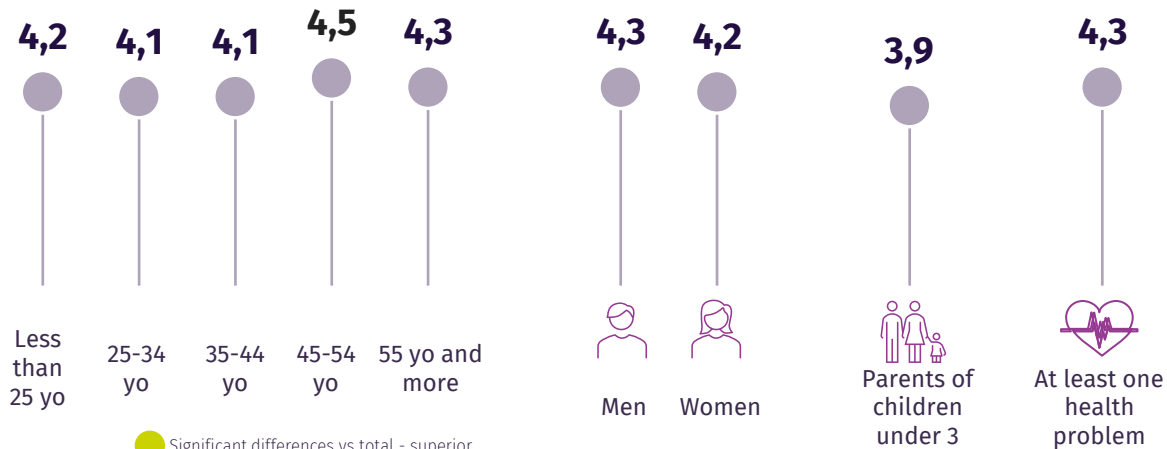
Base: All respondents

ALL COUNTRIES

4,5



**Number of good responses on average**



● Significant differences vs total - superior  
 ● Significant differences vs total - inferior

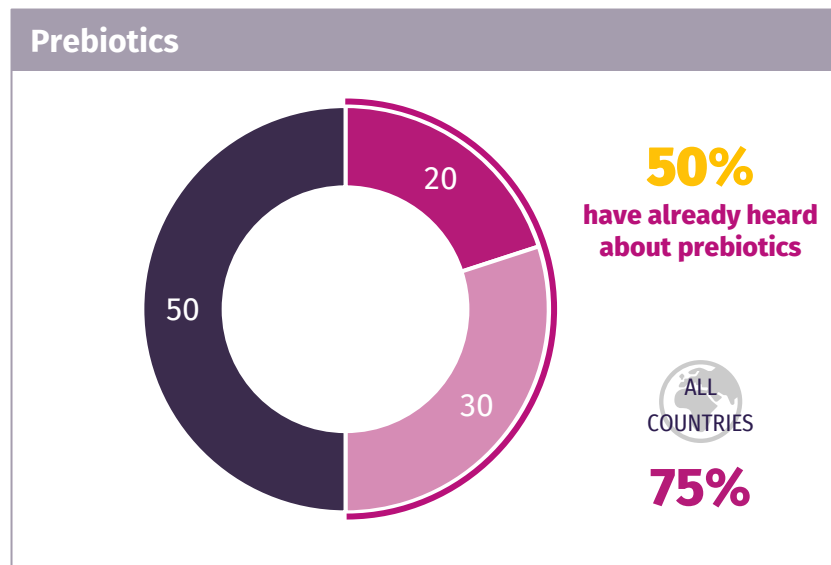
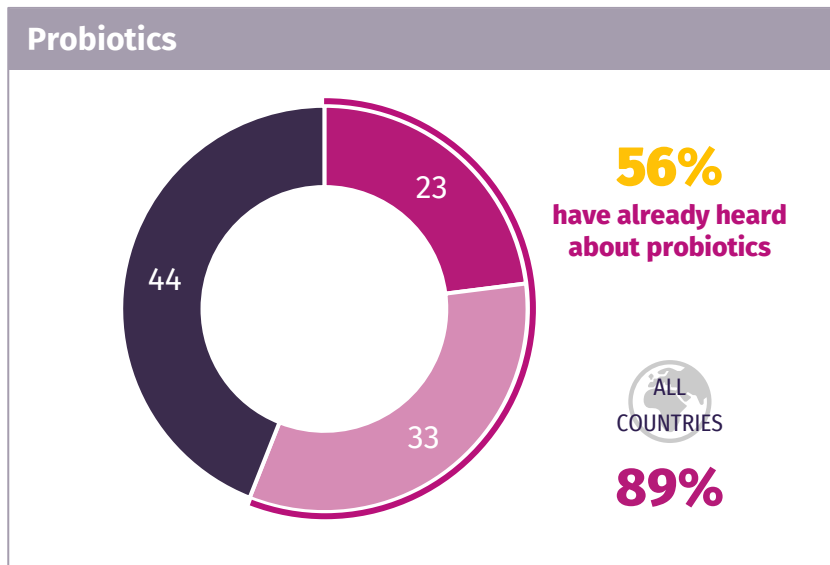


# Awareness of probiotics and prebiotics is very low in Morocco: only half of respondents have already heard of them, which is much lower than in other countries.



Question 2bis. And have you ever heard of these terms?

Base: All respondents



● Yes, and I know exactly what it is   ● Yes, but I don't know exactly what it is   ● No, I never heard about it

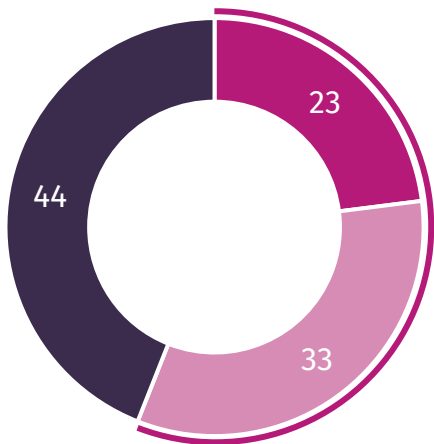


# Moroccans aged less than 25 yo are the least aware of probiotics.



Question 2bis. And have you ever heard of these terms?  
Base: All respondents

## Probiotics



**56%**  
have already heard  
about probiotics

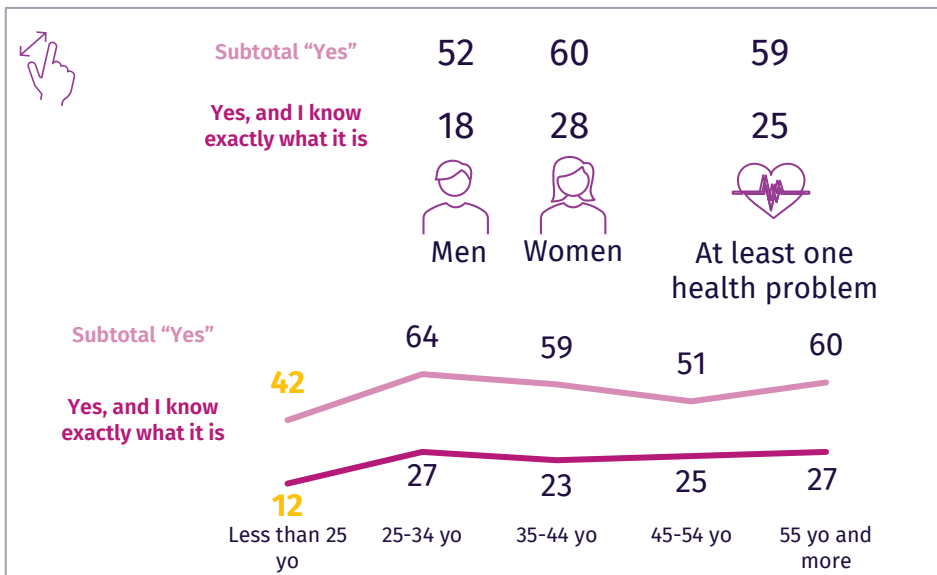


**89%**

● Yes, and I know exactly what it is

● Yes, but I don't know exactly what it is

● No, I never heard about it



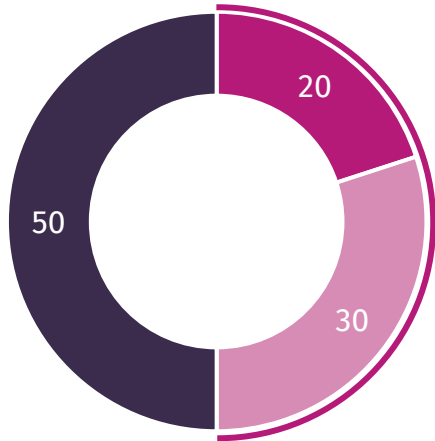


# And Moroccans aged less than 25 yo also have a less precise knowledge of prebiotics.



Question 2bis. And have you ever heard of these terms?  
Base: All respondents

## Prebiotics

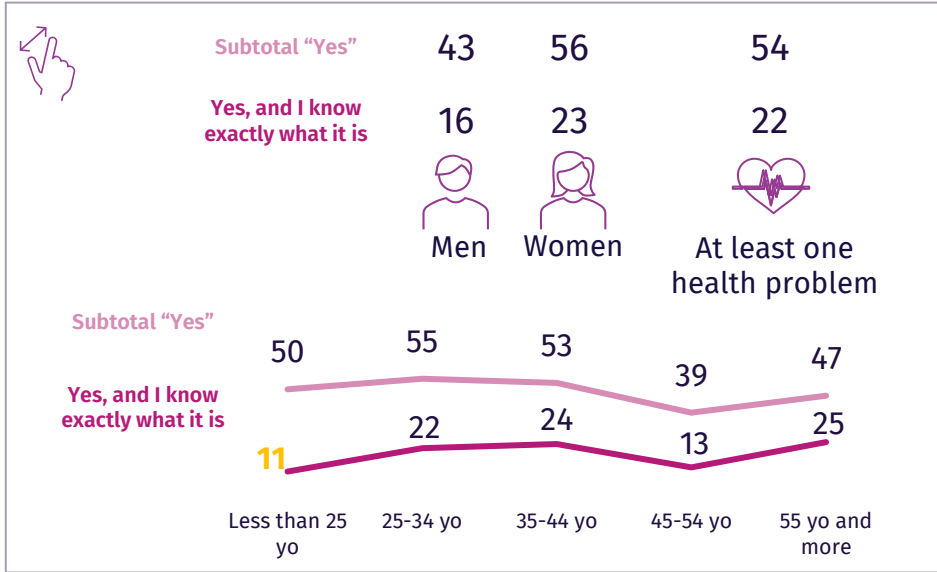


**50%**  
have already heard  
about prebiotics



**75%**

- Yes, and I know exactly what it is
- Yes, but I don't know exactly what it is
- No, I never heard about it





4

**When faced a microbiome-related health problem, Moroccans are less likely to link it to their microbiome than average.**



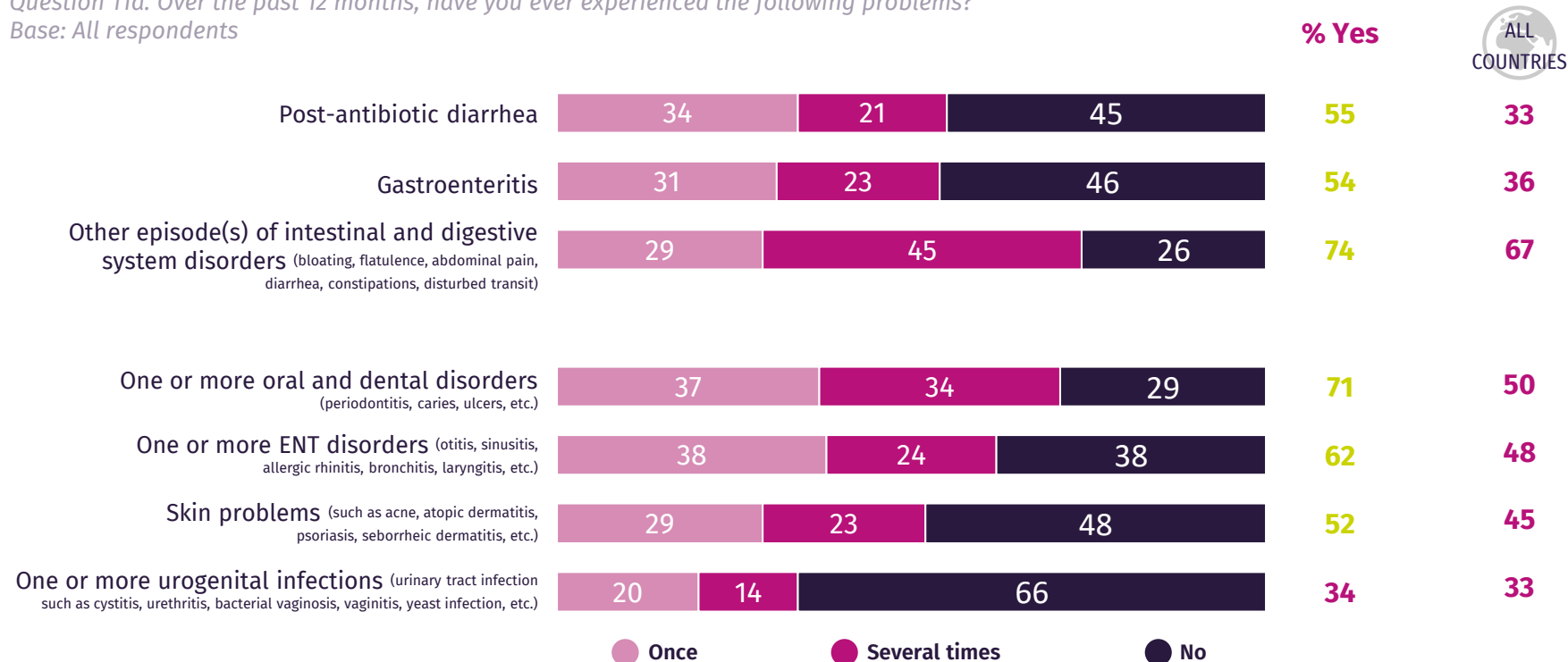


# In the last 12 months, more than half of Moroccans have experienced post-antibiotic diarrhea or gastroenteritis, and 3 out of 4 have had other episodes of intestinal and digestive system disorders, problems which are more common than average.

NEW QUESTION

Question 11a. Over the past 12 months, have you ever experienced the following problems?

Base: All respondents



● Once

● Several times

● No

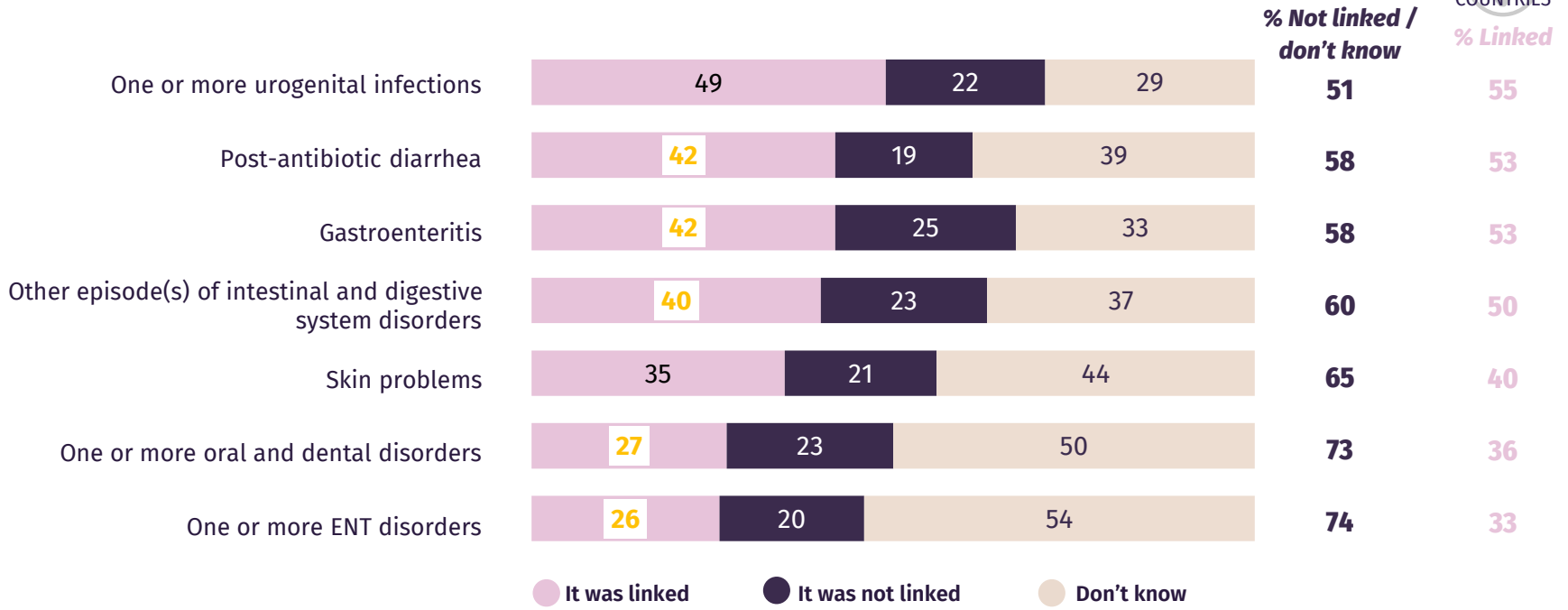


# When suffering health problems, only a minority of Moroccans link them to their microbiome, which is less than in other countries.

**NEW QUESTION**

Question 11b. And do you think this or these problems are linked to your microbiome?  
Base: People who have experienced these problems

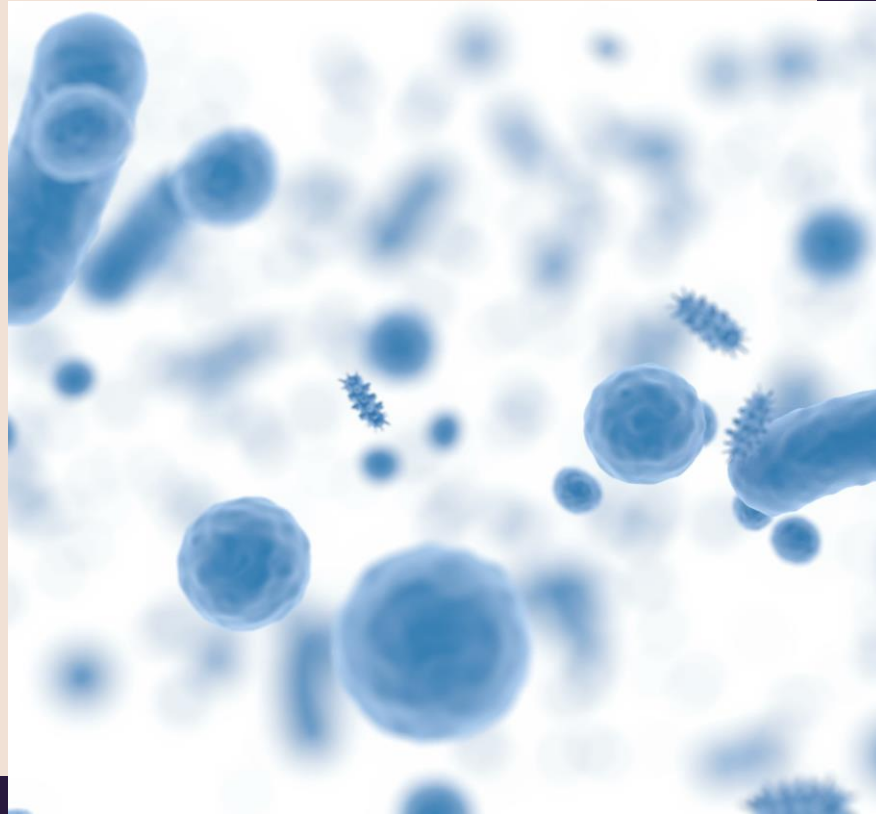
ALL COUNTRIES  
% Linked



● It was linked    ● It was not linked    ● Don't know



**As the most trusted source of information about the microbiome, HCPs must play a larger role in informing Moroccans**



Text displayed to respondents:

The microbiome (or microbial flora) is a group of microorganisms such as bacteria, viruses, fungi and archaea, which live in symbiosis in our body, mainly in our digestive tract but also on the skin, in the lungs, ears, mouth and vagina.

The microbiome has many consequences for our health because it fulfils essential functions such as digesting foods, synthesis of vitamins and stimulating our immune system.

An unbalanced microbiome could be involved in certain diseases such as allergies, obesity and chronic inflammatory bowel diseases.

Recent studies also suggest that the microbiome can have an impact on our mental health and behavior, influencing our mood, cognition and motivation.



# Nearly a third of Moroccans discover the microbiome answering the survey. Otherwise, the main sources are social media and schools or studies.

NEW QUESTION

Question 1V2. The microbiome, you first heard about it...

Base: All respondents

ALL COUNTRIES



# All age groups first heard about the microbiome through the questionnaire.



Question 1V2. The microbiome, you first heard about it...

Base: All respondents

NEW

QUESTION

	Total	Less than 25 yo	25-34 yo	35-44 yo	45-54 yo	55 yo and more	Men	Women	Parents of children under 3	At least one health problem
		n=99	n=127	n=106	n=92	n=76	n=278	n=222	n=60	n=318
While answering this questionnaire	30	30	26	30	36	29	28	32	30	30
On social media (influencers...)	11	10	11	10	18	9	9	13	11	13
School/studies	10	11	8	16	8	7	11	9	11	9
On television, in health-related programs	6	3	6	7	8	7	7	5	4	6
By a healthcare professional	5	4	5	5	1	10	5	5	4	4
On a blog, an online article	5	6	4	6	4	7	7	4	3	4
Occupational doctor / workplace nurse	5	5	4	5	3	8	3	7	2	6
On the radio	3	4	3	2	5	2	2	4	0	3
In specialized press (wellness, health magazines)	3	0	1	1	3	7	3	2	3	3
Your family, friends, acquaintances	3	4	5	0	1	3	3	3	3	4
On television during the news	2	3	3	1	1	2	3	1	3	2
Advertisements (TV, press, street ads.)	2	3	4	2	1	1	1	4	4	2
From your colleagues	2	2	3	2	2	0	2	1	1	2
In a booklet/brochure at your healthcare professional's office	1	0	3	1	0	0	2	0	1	1
Scientific podcast	1	0	4	0	0	0	2	1	5	1
In national press (general, mainstream media)	1	0	0	3	0	0	1	0	0	0
During a sports activity	1	1	2	0	0	2	1	1	1	1
In regional daily press	0	1	0	0	0	0	1	0	0	0
Other	9	13	8	9	9	6	9	8	14	9

30



Significant differences vs total - superior



Significant differences vs total - inferior



First source by profile



# Healthcare professionals stand out as the most trusted source of information about the microbiome. Teachers are also an important trusted source, more than average.

NEW QUESTION

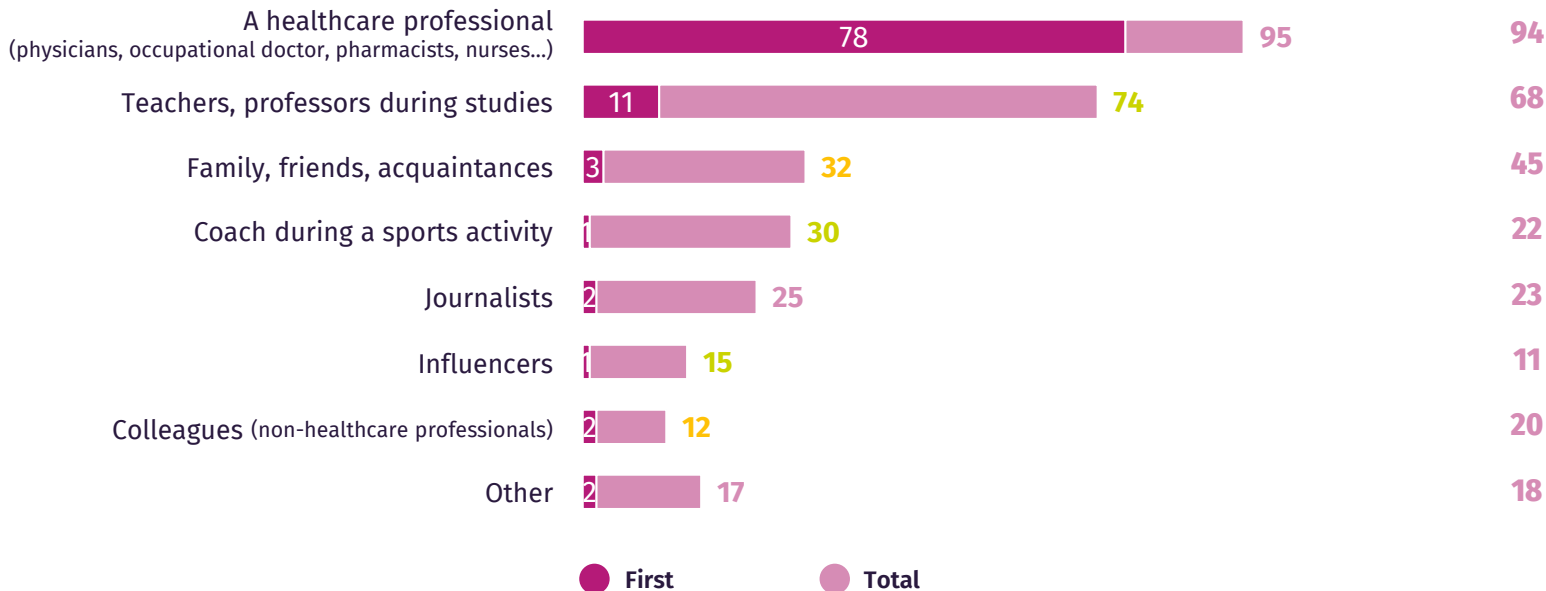
Question 2V2. For relevant and trustworthy information about microbiome, who would you trust the most?

Select the sources you would trust the most: 1st, 2nd, 3rd

Base: All respondents



% Total





NEW QUESTION

## And among all age groups, healthcare professionals are considered as the most reliable source of information.

Question 2V2. For relevant and trustworthy information about microbiome, who would you trust the most?

Select the sources you would trust the most: 1st, 2nd, 3rd

Base: All respondents

	Total	Less than 25 yo <i>n</i> =99	25-34 yo <i>n</i> =127	35-44 yo <i>n</i> =106	45-54 yo <i>n</i> =92	55 yo and more <i>n</i> =76	Men <i>n</i> =278	Women <i>n</i> =222	Parents of children under 3 <i>n</i> =60	At least one health problem <i>n</i> =318
A healthcare professional (physicians, occupational doctor, pharmacists, nurses...)	<b>95</b>	90	95	95	99	98	93	97	93	95
Teachers, professors during studies	<b>74</b>	81	72	78	<b>60</b>	77	76	72	75	73
Family, friends, acquaintances	<b>32</b>	26	37	31	36	31	35	30	36	31
Coach during a sports activity	<b>30</b>	34	35	22	21	36	32	29	24	28
Journalists	<b>25</b>	23	21	31	28	23	26	24	20	27
Influencers	<b>15</b>	15	18	<b>7</b>	21	14	<b>9</b>	20	16	16
Colleagues (non-healthcare professionals)	<b>12</b>	10	12	17	14	9	11	13	17	12
Other	<b>17</b>	22	11	20	21	13	18	16	18	19





# While Moroccans were more likely than average to have received explanations about the microbiome from HCPs, they were less likely to have been prescribed probiotics or prebiotics.

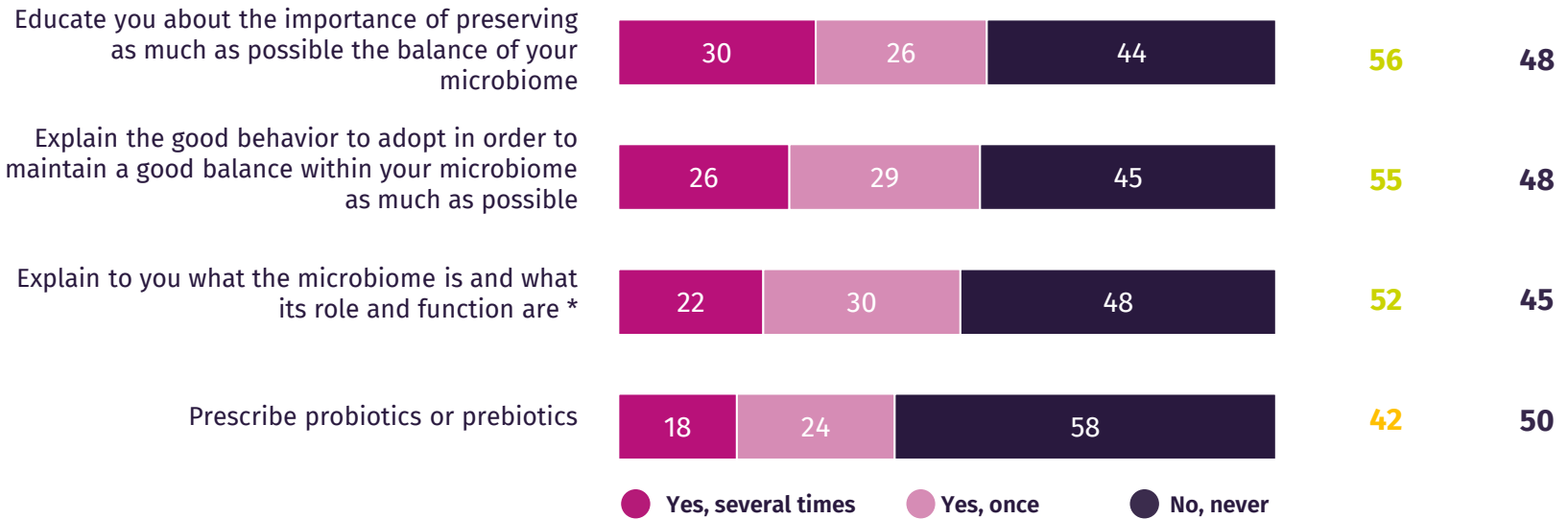


Question 5. Have any of the healthcare professionals you have seen ever done any of the following?  
Base: All respondents

Only **29%** received **ALL THESE INFORMATION**, at least one time  
**9%** received **all these information several times**

**30%** **9%** **% Yes**

ALL COUNTRIES ALL COUNTRIES



A full definition explaining the microbiome has been displayed to respondents before this question  
\*The wording of this item was changed compared to last year



# People aged 45-54 yo have received less information from healthcare professionals regarding the good behavior to adopt in order to maintain a healthy microbiome balance, as well as fewer prescriptions for probiotics and prebiotics.



Question 5. Have any of the healthcare professionals you have seen ever done any of the following?

Base: All respondents

% Yes	Total	Less than 25 yo	25-34 yo	35-44 yo	45-54 yo	55 yo and more	Men	Women	Parents of children under 3	At least one health problem
	base n=500	n=99	n=127	n=106	n=92	n=76	n=278	n=222	n=60	n=318
Educate you about the importance of preserving as much as possible the balance of your microbiome	<b>56</b>	57	62	51	49	59	58	54	50	57
Explain the good behavior to adopt in order to maintain a good balance within your microbiome as much as possible	<b>55</b>	54	57	50	<b>41</b>	<b>68</b>	54	56	47	57
Explain to you what the microbiome is and what its role and function are	<b>52</b>	51	55	48	43	59	53	50	43	53
Prescribe probiotics or prebiotics	<b>42</b>	44	49	43	<b>28</b>	43	43	41	49	45

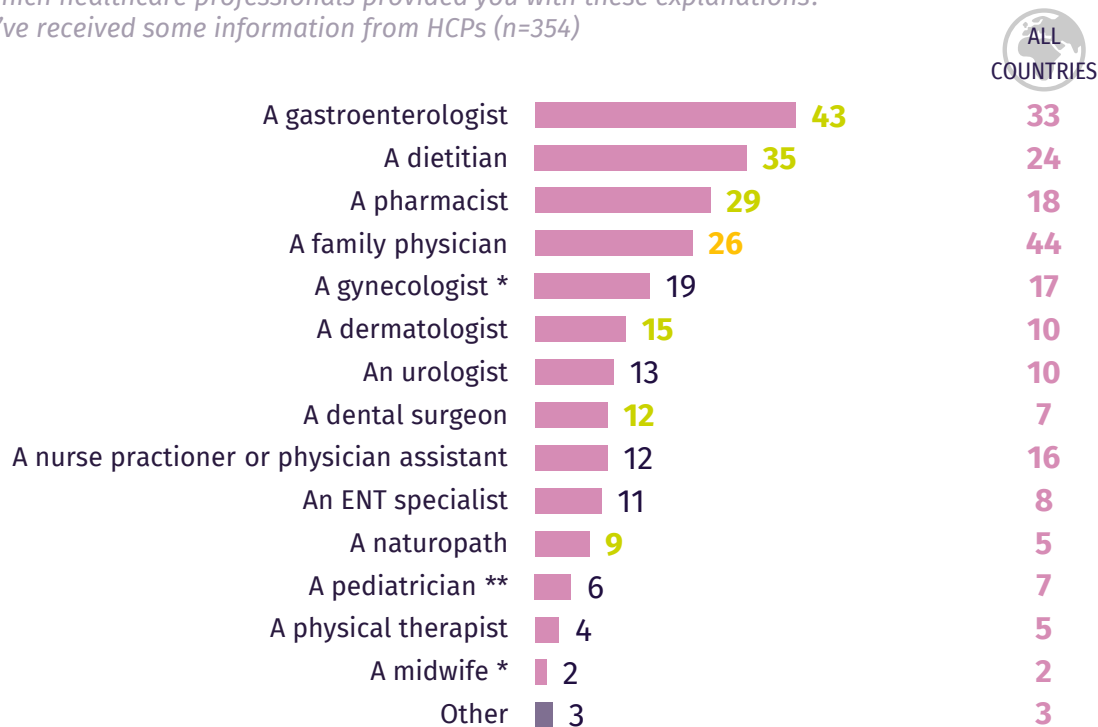


# Gastroenterologists, dietitians, pharmacists and family physician are the main sources of information about the microbiome.

NEW QUESTION

Question 6. And which healthcare professionals provided you with these explanations?

Base: People who've received some information from HCPs (n=354)



\* Item displayed to women

\*\* Item displayed to parents



# For Moroccans under 25yo, their first source of information is the dietitian.



**NEW QUESTION**

Question 6. And which healthcare professionals provided you with these explanations?

Base: People who've received some information from HCPs (n=354)

	Total	Less than 25 yo	25-34 yo	35-44 yo	45-54 yo	55 yo and more	Men	Women	Parents of children under 3	At least one health problem
base	n=354	n=74	n=96	n=68	n=56	n=60	n=196	n=158	n=42	n=235
A gastroenterologist	<b>43</b>	35	45	41	54	44	40	46	54	45
A dietitian	<b>35</b>	39	32	35	42	30	37	32	26	34
A pharmacist	<b>29</b>	22	30	29	35	30	34	24	34	30
A family physician	<b>26</b>	18	22	33	20	36	29	23	14	26
A gynecologist	<b>19</b>	19	25	18	21	13	<b>0</b>	<b>38</b>	15	19
A dermatologist	<b>15</b>	16	17	8	19	13	13	16	6	16
An urologist	<b>13</b>	15	13	8	19	14	14	12	16	13
A dental surgeon	<b>12</b>	<b>3</b>	15	12	20	11	13	11	14	13
A nurse practitioner or physician assistant	<b>12</b>	14	14	15	8	9	15	9	19	13
An ENT specialist	<b>11</b>	16	10	5	16	8	9	12	11	11
A naturopath	<b>9</b>	8	11	7	11	8	10	8	14	7
A pediatrician	<b>6</b>	3	6	10	8	4	8	4	<b>17</b>	7
A physical therapist	<b>4</b>	5	1	3	6	6	4	3	0	3
A midwife	<b>2</b>	1	1	0	1	5	0	3	0	2
Other	<b>3</b>	4	2	0	3	5	5	1	5	3

● Significant differences vs total - superior

● Significant differences vs total - inferior

● First source by profile



# Only a minority of Moroccans has received information about microbiome after being prescribed antibiotics, although they were more informed of possible digestive disorders compared to the global average.



Question 7. The last time a doctor prescribed antibiotics, did they do the following?  
Base: All respondents

Only **25%** received ALL THESE INFORMATION from their HCPs



**27%**



**% Yes**





# When prescribed antibiotics, parents have received less information about possible digestive disorders associated with antibiotics.



Question 7. The last time a doctor prescribed antibiotics, did they do the following?

Base: All respondents

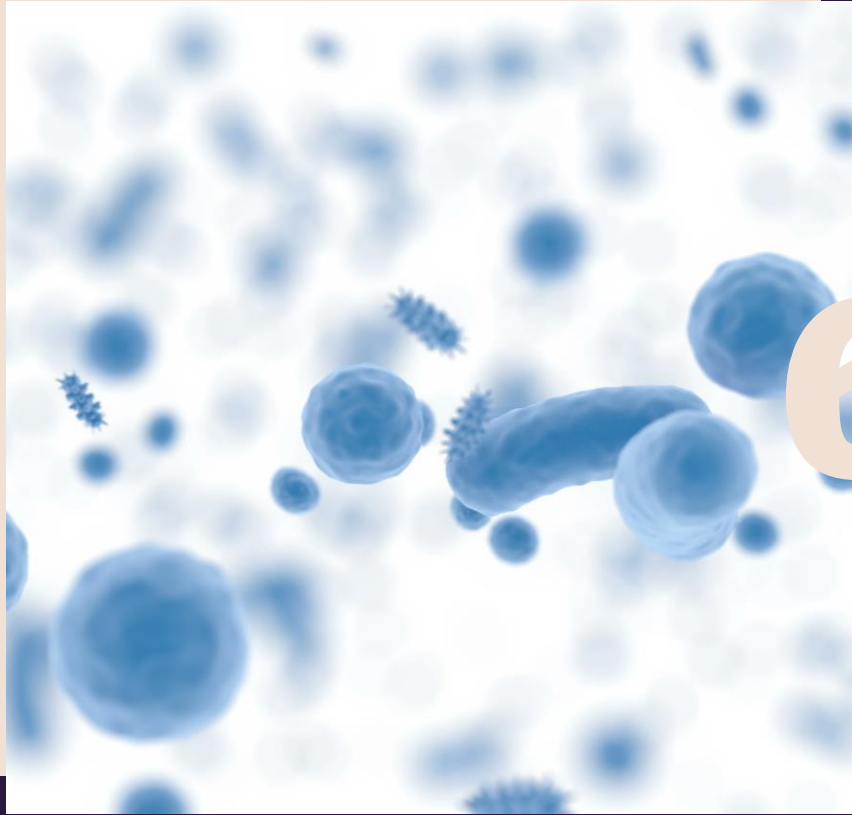
% Yes	Total	Less than 25 yo	25-34 yo	35-44 yo	45-54 yo	55 yo and more	Parents of children under 3	At least one health problem
	base n=500	n=99	n=127	n=106	n=92	n=76	n=60	n=318
<b>% HAVE RECEIVED ALL THESE INFORMATION FROM THEIR HCPS</b>	<b>25</b>	<b>19</b>	<b>24</b>	<b>29</b>	<b>18</b>	<b>35</b>	<b>25</b>	<b>26</b>
Tell you about any digestive disorders associated with taking antibiotics	<b>51</b>	46	47	48	53	61	<b>33</b>	53
Give you advice on limiting the negative consequences of taking antibiotics on your microbiome as much as possible	<b>42</b>	37	49	39	<b>30</b>	51	50	43
Tell you that taking antibiotics could have negative consequences on the balance of your microbiome	<b>39</b>	39	45	37	31	40	38	39



Significant differences vs total - superior



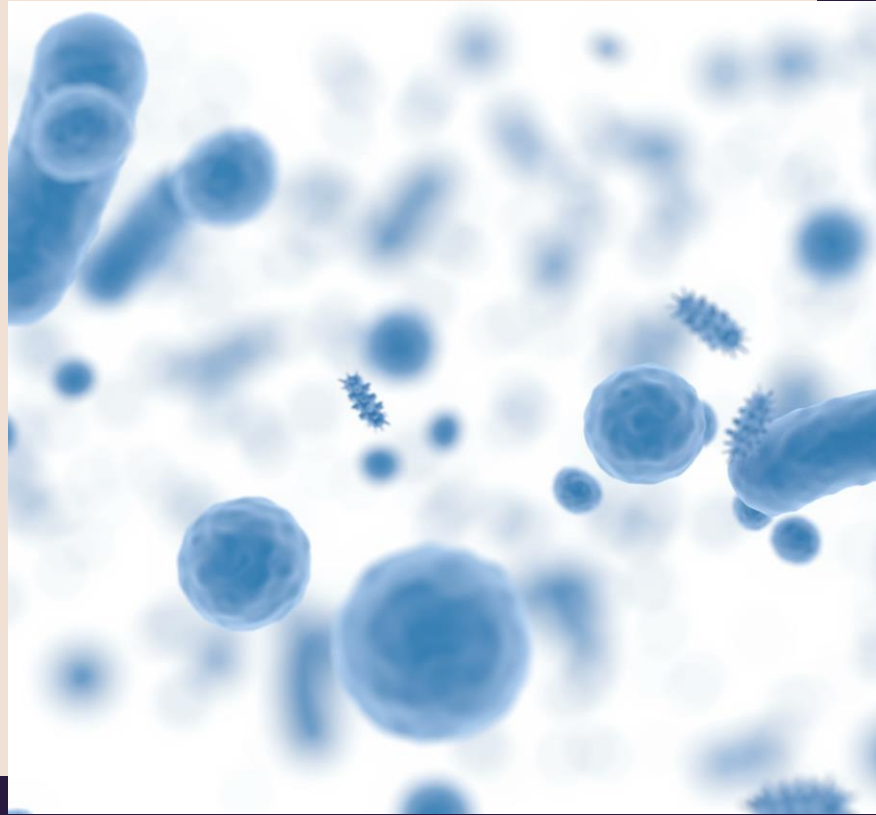
Significant differences vs total - inferior



# 6

## Focus on the vaginal microbiome

*In the next questions, we will discuss the vaginal microbiome, also known as vaginal flora.*



Text displayed to respondents:

In the next questions, we will discuss the vaginal microbiome, also known as vaginal flora. Please read before answering the next questions.

Many people say “vagina” whereas they usually refer to the vulva. The vulva is the outside, visible part of your genitals — your labia (lips), clitoris, vaginal opening, and the opening to your urethra (the hole you pee out of). The vagina is the inside - the stretchy tube that connects your vulva to your cervix and uterus. The vagina allows for sexual intercourse and birth. It also channels menstrual flow.



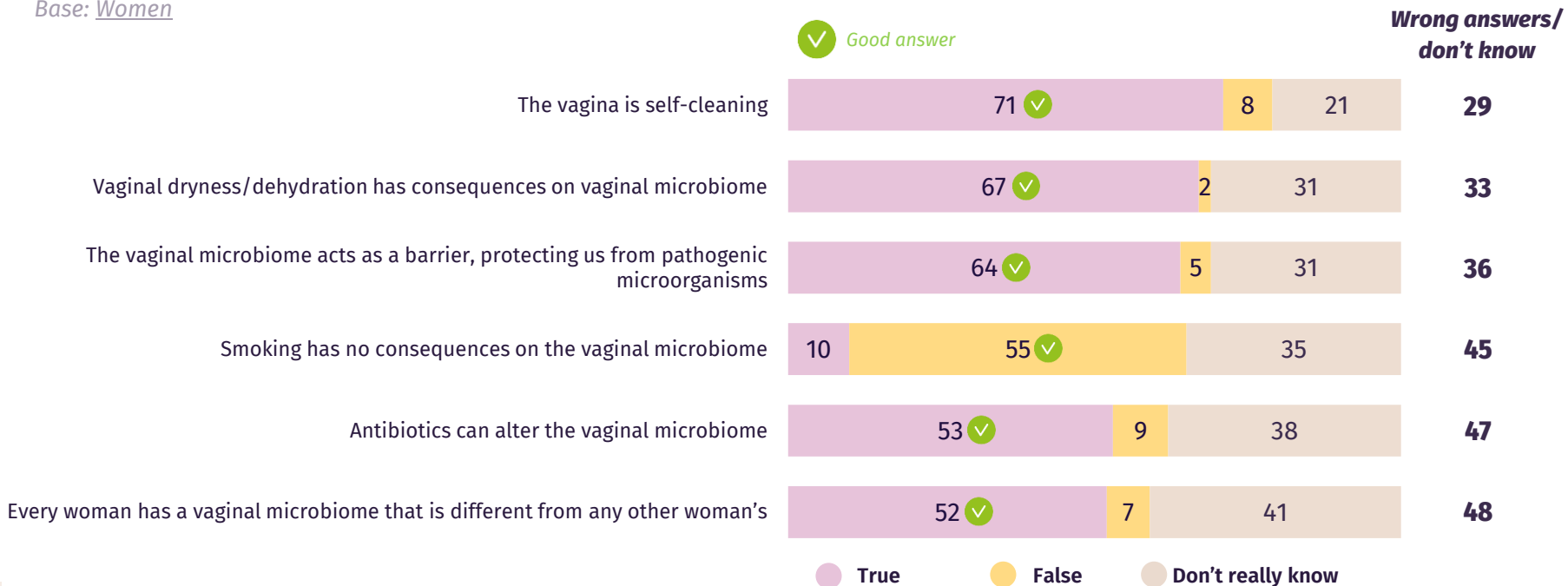


# Moroccan women have good knowledge of some aspects of vaginal microbiome, such as its self-cleaning function, the consequences of vaginal dryness and its protective function. Otherwise, knowledge is limited.



Question 13. For each of the following statements, tell us if you think it is TRUE or FALSE. If you are unsure about your answer, answer I do not really know.

Base: Women



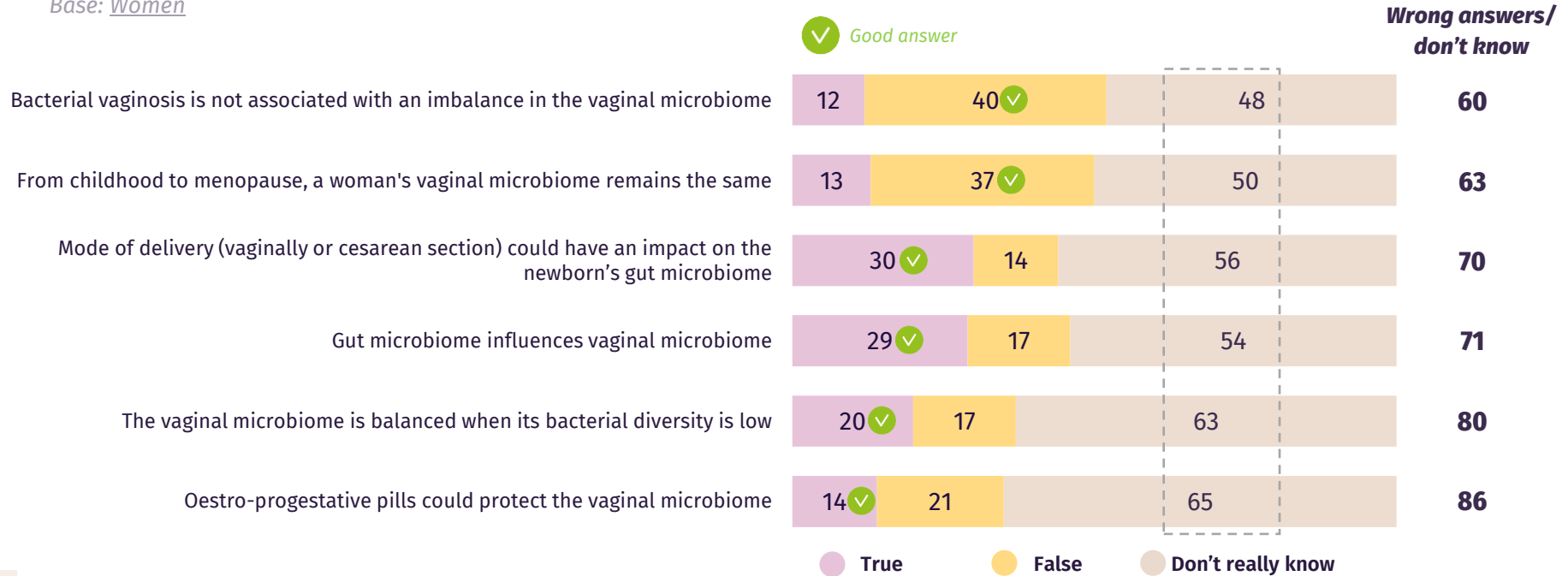


# And for other aspects of vaginal microbiome, Moroccan women aren't wrong, they just don't know about them.



Question 13. For each of the following statements, tell us if you think it is TRUE or FALSE. If you are unsure about your answer, answer I do not really know.

Base: Women





# Knowledge of vaginal microbiome appears more limited among Moroccan women than the average, except for the self-cleaning function of the vagina.

Question 13. For each of the following statements, tell us if you think it is TRUE or FALSE. If you are unsure about your answer, answer I do not really know.

Base: Women

% good answer

	Total	ALL COUNTRIES
The vagina is self-cleaning	71	56
Vaginal dryness/dehydration has consequences on vaginal microbiome	67	69
The vaginal microbiome acts as a barrier, protecting us from pathogenic microorganisms	64	68
Smoking has no consequences on the vaginal microbiome	55	55
Antibiotics can alter the vaginal microbiome	53	69
Every woman has a vaginal microbiome that is different from any other woman's	52	64
Bacterial vaginosis is not associated with an imbalance in the vaginal microbiome	40	44
From childhood to menopause, a woman's vaginal microbiome remains the same	37	55
Mode of delivery (vaginally or cesarean section) could have an impact on the newborn's gut microbiome	30	40
Gut microbiome influences vaginal microbiome	29	43
The vaginal microbiome is balanced when its bacterial diversity is low	20	30
Oestro-progestative pills could protect the vaginal microbiome	14	22



Significant differences vs total - superior



Significant differences vs total - inferior



## Among Moroccan women, knowledge about the vaginal microbiome seems fairly similar.



Question 13. For each of the following statements, tell us if you think it is TRUE or FALSE. If you are unsure about your answer, answer I do not really know.

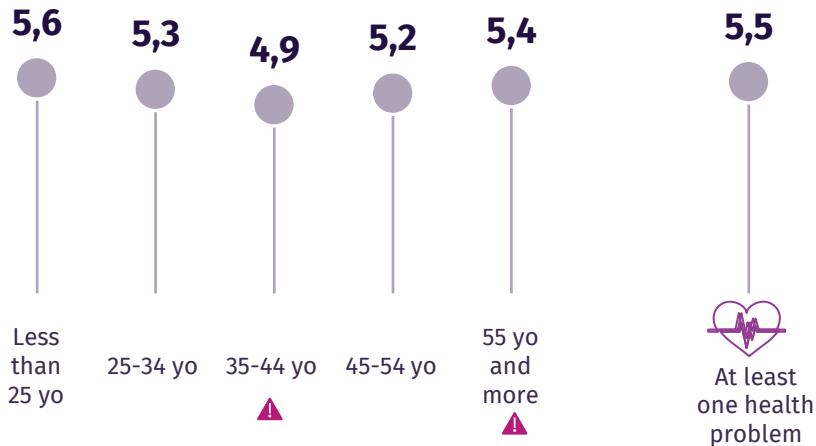
Base: Women



6,2

5,3/12

Number of good responses on average



- Significant differences vs total - superior
- Significant differences vs total - inferior
- Low basis, results must be interpreted with caution



# Only a minority of Moroccan women have received any information or advice about the vaginal microbiome from their HCPs.



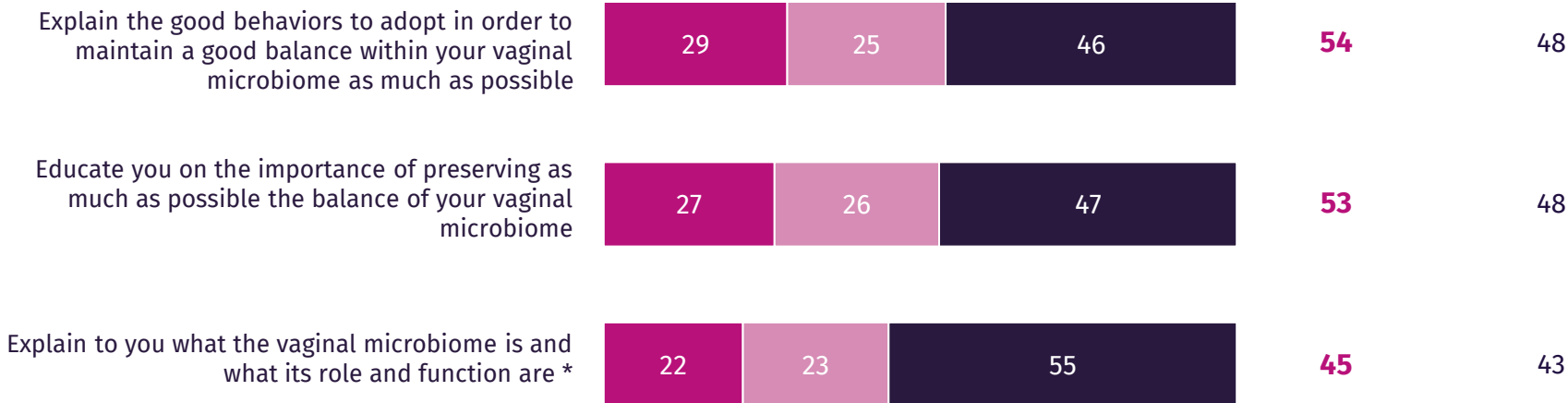
Question 14. Has the healthcare professional following your gynecological health talked to you about the following?  
Base: Women

**38%** received **ALL THESE INFORMATION**, at least one time  
**17%** received **all these information several times**



**37%**  
14%

% Yes



● Yes, several times   ● Yes, once   ● No, never

\*The wording of this item was changed compared to last year

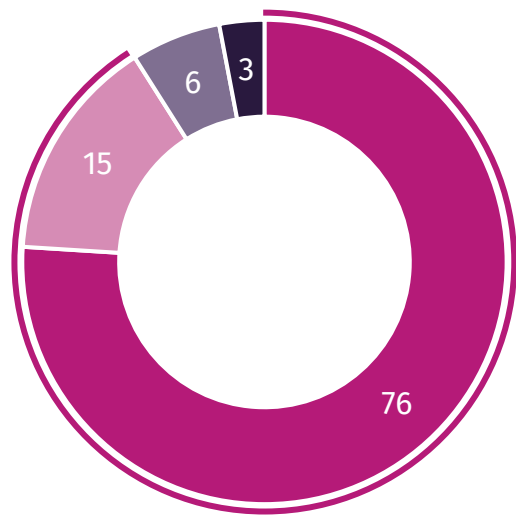


# Therefore, the majority of Moroccan women would like to have more information about the importance of the vaginal microbiome and its impact on health.



Question 15. And would you like the healthcare professional monitoring your gynecological health to tell you more about the importance of your vaginal microbiome and its impact on your health?

Base: Women

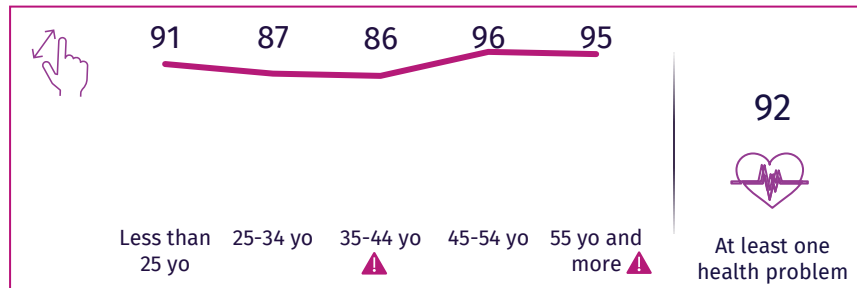


- Yes, absolutely
- Yes, somewhat
- No, not really
- No, not at all

**91%** would like to have more information about the importance of the vaginal microbiome and its impact on health



**88%**



● Significant differences vs total - superior    ● Significant differences vs total - inferior

▲ Low basis, results must be interpreted with caution

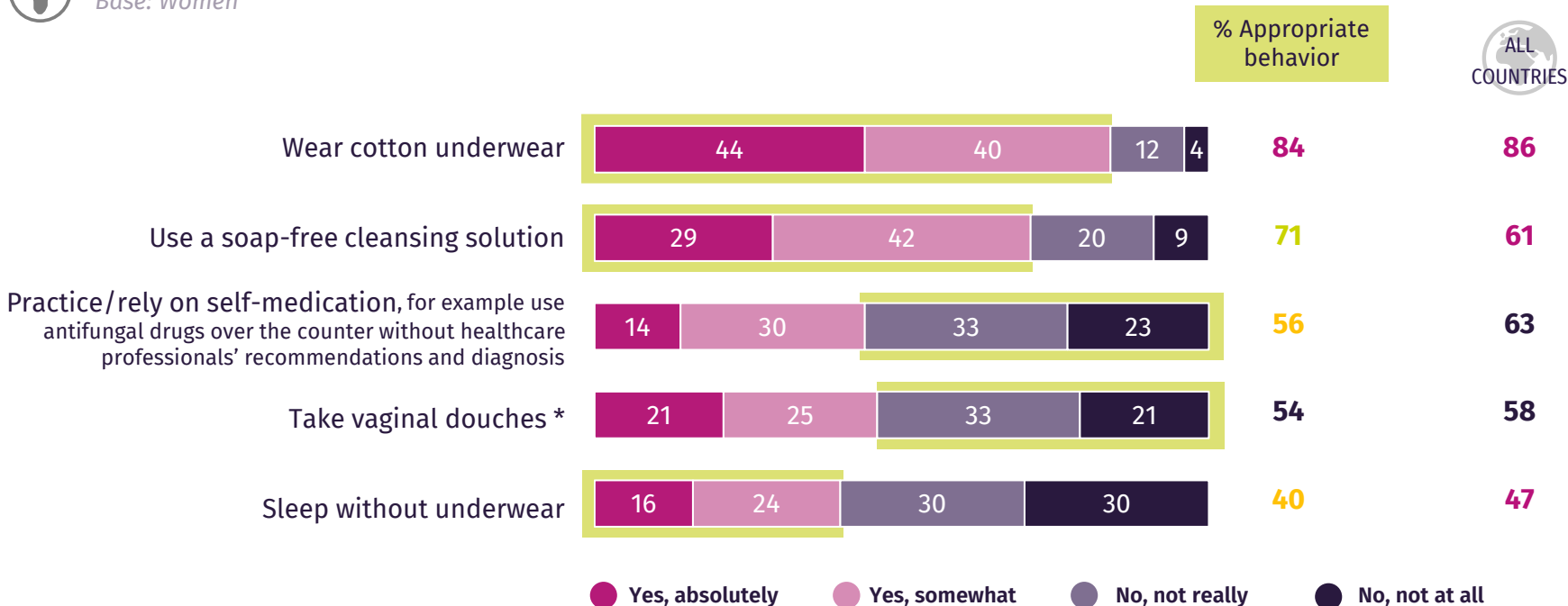


# While Moroccan women are less likely than average to avoid relying on self-medication or to sleep without underwear, they are more likely to use a soap-free cleanser.



Question 16. In your daily life, do you regularly adopt the following behaviors?

Base: Women



\*For this item, the following definition was provided: Vaginal douching is washing or cleaning out the inside of the vagina with water or a mixture of fluids to eliminate odors and "clean" the vagina. Please do not confuse the vaginal douching (The vagina is the inside) with vulvar washing (The vulva is the outside).



## And Moroccan women under 25 yo are less likely to have adopted appropriate behaviors for their vaginal microbiome.

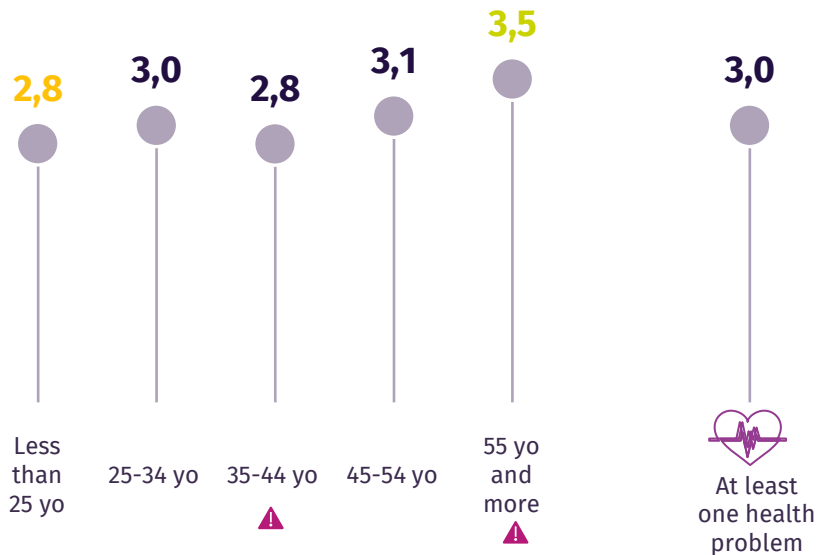


Question 16. In your daily life, do you regularly adopt the following behaviors?  
Base: Women



3,2

3,1/5



Number of appropriate behaviors adopted on average

- Significant differences vs total - superior
- Significant differences vs total - inferior
- Low basis, results must be interpreted with caution



A large, light-colored illustration of a diverse microbiome, featuring various shapes of bacteria and fungi, is positioned on the left side of the slide. The illustration is semi-transparent and overlaps a white rectangular area.

## Main results per country

# Learnings on Moroccan results



Morocco

Awareness of the microbiome & its diversity	
Know exactly what is « microbiome »	19%
Subtotal « Aware »	59%
Subtotal Aware of the gut microbiome	47%
Subtotal Aware of all microbiome	32%

Level of knowledge around the microbiota	
Mean of good answers	4,9/9

Level of knowledge around the solutions which can maintain the microbiota balanced	
Know exactly what are probiotics	23%
Know exactly what are prebiotics	20%

Adoption and identification of appropriate behaviors to maintain a balanced microbiota	
Have changed their behaviors	61%

Level of information provided by healthcare professionals	
Have heard about the microbiome from healthcare professional	5%
Received at least one piece of information at least once	68%

## Key learnings

Morocco, which was added this year in the scope, seems to have a low level of awareness of the microbiome, whether it's the term itself or its role and functions. The population is also less familiar with the term "flora", although it's a more popular term than "microbiome".

Nevertheless, a majority of Moroccans have changed their behaviors to maintain a healthy microbiome, similarly to the average. They have adopted healthy behaviors, but are less likely to consume probiotics or prebiotics. In fact, their awareness of probiotics and prebiotics is lower than in other countries.

Moroccans have received the same level of information from healthcare professionals as the average. In detail, they were more likely to have received an explanation of what the microbiome is, but less for probiotics or prebiotics prescriptions.

To overcome the lack of information about microbiome, key actors to rely on are HCPs, who are the most trusted source of information on the subject, but also teachers. They are considered as an important source of information in Morocco, more than in other countries.

A large, light-colored illustration of a microbiome, showing various shapes representing different types of bacteria and fungi, set against a dark background.

# ANNEXES

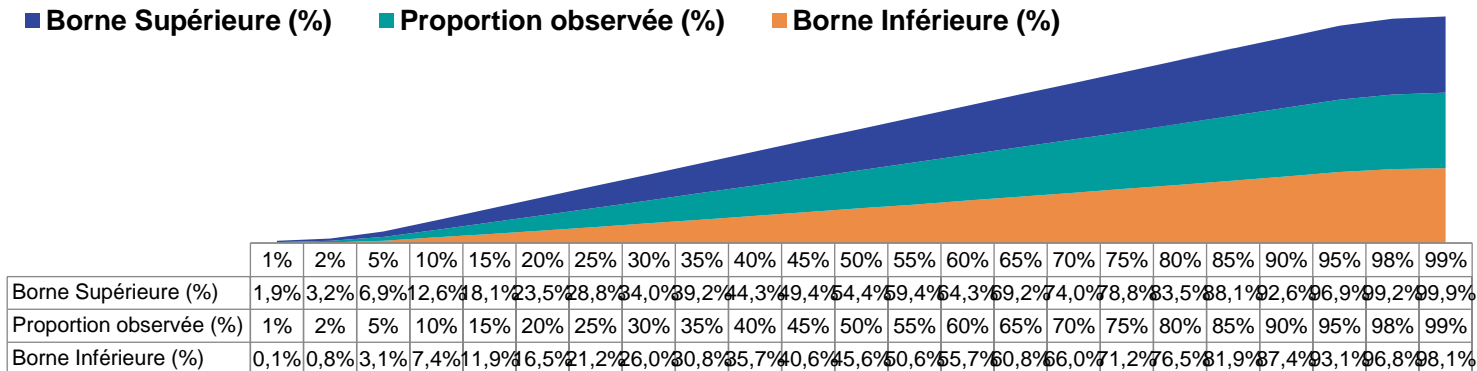
# FIABILITÉ DES RÉSULTATS

## Feuille de calcul

En l'occurrence s'agissant de cette étude :

- Intervalle de confiance : **95%**
- Taille d'échantillon : **500**

Les proportions observées sont comprises entre :



# SURVEY OVERVIEW

## CAWI survey – Online panel



### SAMPLE

- **Target** : Male/female 18 and more in each country
- **Selection of the respondent** : participant selection using quotas
- **Sample representativeness** : criteria and sources : gender, age, active/inactive status, regions



### DATA COLLECTION

- **Fieldwork dates** : January 26<sup>th</sup> – February 26<sup>th</sup> 2024
- **Sample achieved** : **7,500** interviews (1000 for France, Mexico, US and China, 500 in other countries)
- **Data collection** : on line
- **Loyalty program with points- based award system for panelists**
- **Response quality control methods**: monitoring of participants' response behavior (identification of responses that are too quick or careless, e.g. ticked in a straight or zigzag line)
- **Checking of IP and consistency of demographic data.**



### DATA PROCESSING

- Weighted sample
- Method used: Rim Weighting Method
- Weighting criteria: criteria and sources : gender, age, active/inactive status, regions

## SURVEY MATERIAL THE QUESTIONNAIRE



Questionnaire

# RELIABILITY OF RESULTS : SELF COMPLETION ONLINE SURVEYS IIS

To ensure the overall reliability of a survey, all possible error components must be taken into account. That is why Ipsos imposes strict controls and procedures at each stage of the survey process.

## UPSTREAM OF THE DATA COLLECTION

- **Sample** : structure and representativeness
- **Questionnaire** : the questionnaire is worded by following an editing process with 12 compulsory standards. It is proofread and approved at a senior level and then sent to the client for final validation. The programming (or questionnaire script) **is tested by at least 2 people and validated.**
- **Data collection** : the interviewers are trained in survey techniques through a dedicated training module prior to any participation in a survey. In addition, they receive or attend a detailed briefing at the start of each survey.

## DURING THE DATA COLLECTION

- **Sampling** : Ipsos imposes very strict operating rules for its selection frame in order to maximize the random nature of the sample selection : random selection from telephone listings, quota method, etc.

- **Fieldwork monitoring** : collection is monitored and checked (exclusive link, IP validation, panelists' behavior monitoring penetration, interview length, consistency of responses, participation rate, number of reminders, etc.)

## DOWNSTREAM OF THE DATA COLLECTION

- The results are analyzed in accordance with the statistical analysis methods (confidence interval versus sample size, significance tests). The first results are systematically checked against the raw results from the data collection. The consistency of results is also checked (particularly the results observed versus comparison sources in our possession).
- In cases where sample weighting is used (margin calibration method), this is checked by the processing teams (DP) and then validated by the survey teams.

# SURVEY OVERVIEW

## Organization (CAWI survey - Online panel)



### ACTIVITIES CARRIED OUT OR COORDINATED BY IPSOS TEAMS IN FRANCE

- Design and methodology
- Validation of scripting
- Coordination and validation of translation
- Coordination of data collection
- Data processing
- Validation of the statistical analyses
- Creation of survey report
- Results presentation design
- Oral presentation Analyses



### ACTIVITIES CARRIED OUT BY IPSOS EXPERT LOCAL TEAMS

- Translation
- Scripting
- Sampling (IIS panel)
- Emailing
- Data collection
- Data Map

# ABOUT IPSOS

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Ipsos is the third largest market research company in the world, present in 90 markets and employing more than 18,000 people.

Our research professionals, analysts and scientists have built unique multi-specialist capabilities that provide powerful insights into the actions, opinions and motivations of citizens, consumers, patients, customers or employees. Our 75 business solutions are based on primary data coming from our surveys, social media monitoring, and qualitative or observational techniques.

“Game Changers” – our tagline – summarises our ambition to help our 5,000 clients to navigate more easily our deeply changing world.

Founded in France in 1975, Ipsos is listed on the Euronext Paris since July 1st, 1999. The company is part of the SBF 120 and the Mid-60 index and is eligible for the Deferred Settlement Service (SRD).

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# GAME CHANGERS

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In our world of rapid change, the need for reliable information to make confident decisions has never been greater.

At Ipsos we believe our clients need more than a data supplier, they need a partner who can produce accurate and relevant information and turn it into actionable truth.

This is why our passionately curious experts not only provide the most precise measurement, but shape it to provide True Understanding of Society, Markets and People.

To do this we use the best of science, technology and know-how and apply the principles of security, simplicity, speed and substance to everything we do.

So that our clients can act faster, smarter and bolder. Ultimately, success comes down to a simple truth:  
**You act better when you are sure.**