

INGLÊS

INSTRUÇÃO: As questões de números **36** a **40** referem-se ao texto seguinte.

Cause and Effect: Acne, a Visible Outbreak of Stress

By Eric Nagourney

Acne has long been known to cause stress. Now, a new study offers evidence that has long been suspected – that stress causes acne – may also be true. Researchers at Stanford put the question to the test by examining students with acne problems on two occasions: once during a relatively stress-free time and again during an exam period. They also administered standardized questionnaires intended to assess stress levels. The researchers, whose report appears in The Archives of Dermatology, found that “changes in acne severity correlate highly with increasing stress.” For people who use acne medicine, the lesson may be to pay close attention to what is going on in their lives, said the senior researcher, Dr. Alexa B. Kimball. “If they know that a stressful time is coming up,” Dr. Kimball said, “that’s an important time to be particularly compliant with their medicine.” Doctors treating acne patients may also want to take stressful conditions into account in deciding when to time a change in prescription, she said. The findings are based on a study of 22 students – 15 men and 7 women – with serious acne problems. Acne affects 85 percent of the population at some point in life. Why stress may cause the skin to erupt is unclear. Some research suggests that it may provoke a greater release of hormones associated with acne. The researchers also looked at whether changes in peoples’ daily lives – in sleep, for example, or eating habits – played a role. Even when these were factored out, the study said, the students’ acne became worse. The role of stress in acne should not be surprising, Dr. Kimball said. She noted that some patients responded well to biofeedback, which is intended to reduce stress. Stress has also been linked to numerous other medical problems and has been shown to affect wound healing.

The New York Times
nytimes.com
August 5, 2003

36 e

According to information provided by the text, stress may worsen

- a) biofeedback.
- b) sleep.
- c) eating habits.
- d) growth hormone release.
- e) skin eruptions.

Resolução

De acordo com informações fornecidas pelo texto, o estresse pode piorar as erupções de pele.

No texto, "The findings are based... the skin to erupt is unclear."

37 a

Choose the alternative that reflects the information provided by the text.

- a) If acne patients try to reduce stress, their acne problems may improve.
- b) This study is mostly directed to male patients, since 85% of them are affected by the condition.
- c) The reason for the correlation between stress and acne is associated to stress hormones such as adrenalin.
- d) People who have sleeping disorders or bad eating habits are more likely to undergo stressful situations.
- e) Male students who endured stressful situations may expect an outbreak of acne or flu, or any other disease they may have.

Resolução

O texto informa que, se os pacientes com acne tentarem reduzir o estresse, seus problemas de acne podem melhorar.

No texto, "...changes in acne severity correlate highly with increasing stress."

38 d

The link between acne and stress stated in the first paragraph of the text can be represented by the sentence:

- a) Stress causes acne but the reverse is false.
- b) They are the same since cause and effect are interchangeable.
- c) Stress causes acne in all cases.
- d) Stress can be the effect of acne but the reverse can also happen.
- e) Acne is the main reason for stress along with a greater release of hormones.

Resolução

No primeiro parágrafo, a ligação entre acne e estresse declarada no texto pode ser representada pela frase: o estresse pode ser o efeito da acne, mas o contrário também pode acontecer.

39 b

The third paragraph of the text provides

- a) treatment conditions.
- b) advice for doctors and patients.
- c) alternative treatments.
- d) probable cure for acne.
- e) suggested behavior for students.

Resolução

O terceiro parágrafo do texto dá conselhos para médicos e pacientes.

No texto, "For people who use acne medicine, ... when to time a change in prescription, she said."

40 a

In the last sentence of the fourth paragraph, *Even when these were factored out, the study said, the students' acne became worse.*, the word *these* refers to

- a) changes in people's lives.
- b) eating habits.
- c) the researchers.
- d) hormones associated with acne.
- e) the students who participated of the study.

Resolução

*No última frase do quarto parágrafo, até mesmo quando **estas** foram excluídas, o estudo mostrou que a acne dos estudantes piorou. **These** = estas refere-se às mudanças na vida das pessoas.*

INSTRUÇÃO: As questões de números 41 a 47 referem-se ao texto seguinte.

STEM CELL BASICS

WHAT ARE THE UNIQUE PROPERTIES OF ALL STEM CELLS?

Stem cells differ from other kinds of cells in the body. All stem cells – regardless of their source – have three general properties: they are capable of dividing and renewing themselves for long periods; they are unspecialized; and they can give rise to specialized cell types. Stem cells are unspecialized. One of the fundamental properties of a stem cell is that it does not have any tissue-specific structures that allow it to perform specialized functions. A stem cell cannot work with its neighbors to pump blood through the body (like a heart muscle cell); it cannot carry molecules of oxygen through the bloodstream (like a red blood cell); and it cannot fire electrochemical signals to other cells that allow the body to move or speak (like a nerve cell). However, unspecialized stem cells can give rise to specialized cells, including heart muscle cells, blood cells, or nerve cells.

Stem cells are capable of dividing and renewing themselves for long periods. Unlike muscle cells, blood cells, or nerve cells – which do not normally replicate themselves – stem cells may replicate many times. When cells replicate themselves many times over it is called proliferation. A starting population of stem cells that proliferates for many months in the laboratory can yield millions of cells. If the resulting cells continue to be unspecialized, like the parent stem cells, the cells are said to be capable of long-term self-renewal.

Stem cells can give rise to specialized cells. When unspecialized stem cells give rise to specialized cells, the process is called differentiation. Scientists are just beginning to understand the signals inside and outside cells that trigger stem cell differentiation. The internal signals are controlled by a cell's genes, which are interspersed across long strands of DNA, and carry coded instructions for all the structures and functions of a cell. The external signals for cell differentiation include chemicals secreted by other cells, physical contact with neighboring cells, and certain molecules in the environment.

Therefore, many questions about stem cells remain. For example, are the internal and external signals for cell differentiation similar for all kinds of stem cells? Can specific sets of signals be identified that promote differentiation into specific cell types? Addressing these questions is critical because the answers may lead scientists to find new ways of controlling stem cell differentiation in the laboratory, thereby growing cells or tissues that can be used for specific purposes including cell-based therapies.

Fonte: <http://stemcells.nih.gov/infocenter/stemCellBasics.asp#4>

41 e

O processo de diferenciação ocorre quando

- a) os sinais internos e externos das células desencadeiam a divisão celular.
- b) os genes das células que controlam os sinais internos se dispersam pelas longas cadeias de DNA.
- c) determinadas moléculas do microambiente induzem a secreção de elementos químicos diferenciais que inibem a produção de células-tronco.
- d) as instruções codificadas de todas as estruturas e funções das células são ativadas por contato com células adjacentes.
- e) as células-tronco não especializadas originam células especializadas por meio de certos sinais.

Resolução

O processo de diferenciação ocorre quando as células-tronco não-especializadas originam células especializadas por meio de certos sinais. No texto, no quarto parágrafo: "Stem cells can give rise to specialized cells. When unspecialized stem cells give rise to specialized cells, the process is called differentiation... cell differentiation."

42 d

As questões colocadas no quinto parágrafo do texto

- a) já foram solucionadas pelos cientistas.
- b) levarão os cientistas a descobrir respostas críticas para a divisão celular no laboratório.
- c) promoverão pesquisas que identificarão o funcionamento de tipos específicos de células.
- d) podem originar pesquisas que produzam terapias com base em células ou a produção de células e tecidos para determinados fins.
- e) indicam que há a suspeita de que as células-tronco se diferenciam de modo semelhante aos outros tipos de células.

Resolução

As questões colocadas no quinto parágrafo podem originar pesquisas que produzam terapias com base em células ou a produção de células e tecidos para determinados fins.

No texto, "Addressing these questions is critical because the answers may lead scientists to find new ways ... including cell-based therapies."

43 c

A palavra *However*, na frase do último parágrafo *However, a number of experiments over the last several years have raised the possibility ...*, pode ser substituída, sem mudar o sentido, por

- a) Therefore. b) Meanwhile. c) Nevertheless.
d) Even so. e) Furthermore.

Resolução

A palavra **however**, na frase "*However, a number of experiments over the last several years have raised...*" pode ser substituída por **nevertheless**, sem mudança de sentido.

- *however* = *nevertheless*: entretanto

44 b

O fenômeno da plasticidade

- a) já está sendo usado para gerar terapias celulares com células-tronco de adultos e de certos animais.
b) ocorre quando as células-tronco são capazes de se especializar em células de tecidos diferentes dos de sua origem.
c) é uma possibilidade que ocorre somente com células-tronco retiradas da medula óssea de adultos.
d) pode ser exemplificada pelo uso de células neurais para recriar neurônios perdidos.
e) foi comprovado por meio de pesquisas com células-tronco hematopoéticas, que se replicaram por vários meses.

Resolução

O fenômeno da plasticidade ocorre quando as células-tronco são capazes de se especializar em células de tecidos diferentes dos de sua origem.

No texto, sexto parágrafo: "a number of experiments over the last several... a phenomenon known as plasticity."

45 a

As células especializadas

- a) não se replicam, quando funcionam normalmente.
b) podem se proliferar durante vários meses.
c) têm a capacidade de auto-renovação a longo prazo.
d) apresentam estruturas inespecíficas adaptáveis.
e) agregam-se a células-tronco para executarem funções especializadas em conjunto.

Resolução

De acordo com o texto, as células especializadas (musculares, sanguíneas e nervosas) não se replicam, quando funcionam normalmente.

No texto, "Unlike muscle cells, ... may replicate many times."

46 e

Na última frase do texto, *Therefore, exploring the possibility of using adult stem cells for cell-based therapies has become a very active area of investigation by researchers.*, a palavra *Therefore* indica

- a) contraste.
- b) causa.
- c) concessão.
- d) condição.
- e) consequência.

Resolução

Na última frase do texto, **therefore** significa **portanto**, indicando, dessa forma, uma consequência.

Therefore, exploring the possibility of using adult stem cells for cell-based therapies has become a very active area of investigation by researchers.

47 b

A frase do primeiro parágrafo *All stem cells – regardless of their source – have three general properties:* ... apresenta-se como

- a) um exemplo.
- b) uma generalização.
- c) uma suposição.
- d) um argumento.
- e) uma ressalva.

Resolução

A frase do primeiro parágrafo “*todas as células-tronco – independentemente de sua fonte – possuem três propriedades gerais*” apresenta-se como uma explicação geral do que vem a ser célula-tronco, portanto, uma generalização.

INSTRUÇÃO: As questões de números **48** a **50** referem-se ao texto seguinte.

Child Survival Series

*Applying an equity lens to child health and mortality:
more of the same is not enough*

Gaps in child mortality between rich and poor countries are unacceptably wide and in some areas are becoming wider, as are the gaps between wealthy and poor children within most countries. Poor children are more likely than their better-off peers to be exposed to health risks, and they have less resistance to disease because of undernutrition and other hazards typical in poor communities. These inequities are compounded by reduced access to preventive and curative interventions. Even public subsidies for health frequently benefit rich people more than poor people. Experience and evidence about how to reach poor populations are growing, albeit largely through small-scale case studies. Successful approaches include those that improve geographic access to health interventions in poor communities, subsidized health care and health inputs, and social marketing.

Cesar G Victora, Adam Wagstaff, Joanna Armstrong Schellenberg,
Davidson Gwatkin, Mariam Claeson, Jean-Pierre Habicht.
Fonte: *The Lancet*, vol. 362, number 9381, July 19, 2003.

48 C

The first sentence of the text, *Gaps in child mortality between rich and poor countries are unacceptably wide and in some areas are becoming wider, as are the gaps between wealthy and poor children within most countries.*

- a) states that child suffering in rich countries is increasing due to wide gaps.
- b) mentions that child mortality is increasing everywhere, no matter if children are rich or poor.
- c) establishes a similarity between children of rich and poor countries, and rich and poor children within a country.
- d) compares countries and children in terms of wealth and violence.
- e) infers that rich countries have already solved the child mortality gap.

Resolução

A primeira sentença do texto, "Gaps in child mortality between rich and poor countries are unacceptably wide(...)" estabelece uma semelhança entre crianças de países ricos e pobres, e crianças ricas e pobres dentro de um mesmo país.

49 a

In the sentence *Poor children are more likely than their better-off peers to be exposed to health risks ...*, the expression *are more likely* means, in Portuguese,

- a) têm uma maior propensão.
- b) são mais parecidos.
- c) são os que gostam mais.
- d) têm menos chances.
- e) são iguais.

Resolução

A expressão **are more likely** significa em português "têm uma maior propensão". Dessa forma, a sentença completa é: "crianças pobres têm uma maior propensão a serem expostas a riscos de saúde do que as crianças ricas."

50 d

According to the text, improvement of geographic access to health interventions in poor communities, subsidized health care and health inputs, and social marketing, are considered

- a) inequities.
- b) hazards typical of poor communities.
- c) case studies.
- d) successful interventions.
- e) curative interventions.

Resolução

De acordo com as quatro últimas linhas do texto, temos: métodos bem sucedidos incluem aqueles que melhoram o acesso geográfico a intervenções de saúde em comunidades pobres, assistência médica subsidiada e informações sobre saúde, e "marketing" social.