MESTRADO E DOUTORADO EM SAÚDE PÚBLICA 2014

MESTRADO E DOUTORADO EM BIOCIÊNCIAS E BIOTECNOLOGIA EM SAÚDE 2014

Prova de Inglês

Quarta feira dia 23 de outubro de 2013

09h00 – 12h00
PART 1

Please answer questions 1 to 10 with reference to Text 1. There is one and only one correct answer to each question.

Q1. The acronym DDR refers to:
A. A rule of medical ethics whereby organs can only be donated after death
B. A rule of medical ethics whereby organs may not be donated by a patient's legal representatives after death, if the patient has not given express consent
C. A procedure for removing organs from patients near death
D. The German Democratic Republic

Q2. The example of the girl with devastating brain damage given in Paragraph 2 demonstrates that:
A. It is possible for seemingly terminal patients to recover from devastating trauma and this is a good argument against using their organs for transplant
B. Severe brain trauma damages other organs making them useless for transplant
C. The parents of terminally ill patients may have a strong desire for organs to be extracted before death in order to save other lives
D. It is ludicrous that organs are removed from patients who are not clinically dead without use of an anesthetic

Q3. The case described in Paragraph 3 shows that:
A. Many surgeons are eager to remove organs from a dying patient regardless of the patient's consent
B. Families are not allowed to agree to the removal of a patient's non-vital organs for transplant before death, without the patient's consent
C. The process of dying does not affect the viability of organs for transplant
D. Transplantation of organs is physically impossible in cases where extensive neurological damage has occurred

Q4. Which of the following statements about 'brain death' is NOT compatible with the information given in Paragraph 4?
A. Brain death does not necessarily mean that the organism ceases to function as a whole
B. Patients who have been declared 'brain dead' regularly make a complete recovery
C. Brain dead patients are in a constant state of unconsciousness and require artificial ventilation
D. Organs can be removed from a brain dead patient so long as the patient or a legal representative have given consent

Q5. According to current practices regarding 'irreversible loss of circulatory function' as outlined in Paragraph 5, which of the following is a true statement?
A. Medical staff must wait until they are certain that the patient's heart will not resume beating of its own accord before removing organs
B. The pulse of a patient in this condition will generally not last for more than two minutes
C. It is impossible to resuscitate a patient in this condition
D. Family members are allowed to decide whether to resuscitate a patient in this condition.
Q6. We can deduce from Paragraph 6 that the term “nonmaleficience” means:
A. Being insensitive towards the feelings of the patient's family members
B. Necessarily harming patients in the name of the collective good
C. Doing no harm to organs when removing them from brain dead patients
D. Doing no harm to patients

Q7. The word 'trust' in the first sentence of Paragraph 7 could be replaced by which of the following without altering the meaning?
A. Oversight
B. Investment
C. Confidence
D. Dependence

Q8. Which of the following statements is true according to Paragraph 8?
A. Most members of the general public believe that terminal patients should not be kept on ventilators for lengthy periods of time, as this deprives other patients of much needed funds
B. Upholding the DDR would require changes in existing homicide laws
C. Physicians currently refuse to actively involve themselves in ending the life of terminal patients
D. In the 1970s patients on artificial ventilation were given the right to die, even though doctors believed this to amount to homicide

Q9. Paragraph 9 states that “Some people may have personal moral views that preclude the approach we describe here, and these views should be respected”. Which of the following might be an example of such a view?
A. Concerns regarding the cost of medical insurance
B. A belief that physicians should be able to remove organs from a patient at any time
C. A religious conviction that the time of a person's death should be decided by God alone
D. The view that every individual has the right to die as and when they please

Q10. It can be concluded that the authors of the article are of the opinion that:
A. The Dead-Donor Rule should be abolished in the interests of greater patient freedom and more extensive provision of transplantable organs
B. The Dead-Donor Rule should be maintained, despite their misgivings, in view of widespread public support
C. The Dead-Donor Rule needs to be amended to account for new advances in medicine that allow patients to stay alive for longer
D. The Dead-Donor Rule has led to the unlawful death of numerous patients who were not really terminally ill.
1. The ethics of organ transplantation have been premised on “the dead-donor rule” (DDR), which states that vital organs should be taken only from persons who are dead. Yet it is not obvious why certain living patients, such as those who are near death but on life support, should not be allowed to donate their organs, if doing so would benefit others and be consistent with their own interests.

2. This issue is not merely theoretical. In one recent case, the parents of a young girl wanted to donate her organs after an accident had left her with devastating brain damage. Plans were made to withdraw life support and to procure her organs shortly after death. But the attempt to donate was aborted because the girl did not die quickly enough to allow procurement of viable organs. Her parents experienced this failure to donate as a second loss; they questioned why their daughter could not have been given an anesthetic and had the organs removed before life support was stopped. As another parent of a donor child observed when confronted by the limitations of the DDR, “There was no chance at all that our daughter was going to survive. . . . I can follow the ethicist’s argument, but it seems totally ludicrous.”

3. In another recent case described by Dr. Joseph Darby at the University of Pittsburgh Medical Center, the family of a man with devastating brain injury requested withdrawal of life support. The man had been a strong advocate of organ donation, but he was not a candidate for any of the traditional approaches. His family therefore sought permission for him to donate organs before death. To comply with the DDR, plans were made to remove only nonvital organs (a kidney and a lobe of the liver) while he was under anesthesia and then take him back to the intensive care unit, where life support would be withdrawn. Although the plan was endorsed by the clinical team, the ethics committee, and the hospital administration, it was not honored because multiple surgeons who were contacted refused to recover the organs: the rules of the United Network for Organ Sharing (UNOS) state that the patient must give direct consent for living donation, which this patient's neurologic injury rendered impossible. Consequently, he died without the opportunity to donate. If there were no requirement to comply with the DDR, the family would have been permitted to donate all the patient's vital organs.

4. Allegiance to the DDR thus limits the procurement of transplantable organs by denying some patients the option to donate in situations in which death is imminent and donation is desired. But the problems with the DDR go deeper than that. The DDR has required physicians and society to develop criteria for declaring patients dead while their organs are still alive. The first response to this challenge was development of the concept of brain death. Patients meeting criteria for brain death were originally considered to be dead because they had lost “the integrated functioning of the organism as a whole,” a scientific definition of life reflecting the basic biologic concept of homeostasis. Over the past several decades, however, it has become clear that patients diagnosed as brain dead have not lost this homeostatic balance but can maintain extensive integrated functioning for years. Even though brain death is not compatible with a scientific understanding of death, its wide acceptance suggests that other factors help to justify recovery of organs. For example, brain-dead patients are permanently unconscious and cannot live without a ventilator. Recovery of their organs is therefore considered acceptable if organ donation is desired by the patient or by the surrogate on the patient’s behalf.
5. More recently, to meet the evergrowing need for transplantable organs, attention has turned to donors who are declared dead on the basis of the irreversible loss of circulatory function. Here again, we struggle with the need to declare death when organs are still viable for transplantation. This requirement has led to rules permitting organ procurement after the patient has been pulseless for at least 2 minutes. Yet for many such patients, circulatory function is not yet irreversibly lost within this timeframe — cardiopulmonary resuscitation could restore it. So a compromise has been reached whereby organ procurement may begin before the loss of circulation is known to be irreversible, provided that clinicians wait long enough to have confidence that the heart will not restart on its own, and the patient or surrogate agrees that resuscitation will not be attempted (since such an attempt could result in a patient's being “brought back to life” after having been declared dead).

6. Reasonable people could hardly be faulted for viewing these compromises as little more than medical charades. We therefore suggest that a sturdier foundation for the ethics of organ transplantation can be found in two fundamental ethical principles: autonomy and nonmaleficence.4 Respect for autonomy requires that people be given choices in the circumstances of their dying, including donating organs. Nonmaleficence requires protecting patients from harm. Accordingly, patients should be permitted to donate vital organs except in circumstances in which doing so would harm them; and they would not be harmed when their death was imminent owing to a decision to stop life support. That patients be dead before their organs are recovered is not a foundational ethical requirement. Rather, by blocking reasonable requests from patients and families to donate, the DDR both infringes donor autonomy and unnecessarily limits the number and quality of transplantable organs.

7. Many observers nevertheless insist that the DDR must be upheld to maintain public trust in the organ-transplantation enterprise. However, the limited available evidence suggests that a sizeable proportion of the public is less concerned about the timing of death in organ donation than about the process of decision making and assurances that the patient will not recover — concerns that are compatible with an ethical focus on autonomy and nonmaleficence.5

8. Although shifting the ethical foundation of organ donation from the DDR to the principles of autonomy and nonmaleficence would require creation of legal exceptions to our homicide laws, this would not be the first time we have struggled to reconcile laws with the desire of individual patients to die in the manner of their own choosing. In the 1970s, patients won the right to have ventilator use and other forms of life support discontinued, despite physicians' arguments that doing so would constitute unlawful killing. Since that time, physicians have played an active role in decisions about whether and when life support should be withdrawn, and the willingness of physicians to accept this active role in the dying process has probably enhanced, rather than eroded, the public trust in the profession.

9. Our society generally supports the view that people should be granted the broadest range of freedoms compatible with assurance of the same for others. Some people may have personal moral views that preclude the approach we describe here, and these views should be respected. Nevertheless, the views of people who may freely avoid these options provide no basis for denying such liberties to those who wish to pursue them. When death is very near, some patients may want to die in the process of helping others to live, even if that means altering the timing or manner of their death. We believe that policymakers should take these citizens' requests seriously and begin to engage in a discussion about abandoning the DDR.
PART 2

Please answer questions 11 to 20 with reference to Text 2. There is one and only one correct answer to each question.

Q11. The title and subtitle of the article suggest that:
A. The authors believe that sugar is a hazardous substance  
B. The authors are skeptical with regard to the widespread belief that sugar is harmful to health  
C. Sugar is much less dangerous than alcohol  
D. The idea that sugar is toxic is itself dangerous to health as it leads to malnutrition

Q12. Which of the following statistical facts is given in Paragraphs 1 or 2?
A. 35,000 people die worldwide of communicable diseases  
B. Non-communicable diseases now sicken and kill more individuals worldwide than infectious ones.  
C. Thirty per cent of the world's population is obese  
D. Eighty per cent of deaths in low- and middle-income countries can be attributed to non-communicable diseases

Q13. According to Paragraph 3:
A. Twenty percent of obese individuals think that they are probably suffering from metabolic dysfunction  
B. Obesity is the main cause of metabolic syndrome  
C. Around 60% of normal-weight individuals have normal metabolism compared to 20% among obese people  
D. Forty percent of normal-weight individuals show no signs of non-communicable diseases

Q14. According to Paragraph 4:
A. Attempts to control alcohol and tobacco have been largely ineffective and it is therefore unlikely that government intervention in the Western diet will fare any better.  
B. It is more difficult to control food than alcohol and tobacco because food is essential for life  
C. It is impossible to tell which aspects of the Western diet are harmful to health and attempts to control it should be abandoned  
D. Alcohol and tobacco are essential components of the Western diet

Q15. According to authors, in Paragraph 5, what was wrong with the decision the Danish government took in October 2011?
A. Saturated fat is no longer considered by the medical establishment to be the main contributing factor in the development of non-communicable diseases  
B. Their decision increased the tax burden on the low-income population  
C. They failed to distinguish between sucrose and fructose  
D. They actively promoted the consumption of ‘added sugar’

Q16. According to Paragraph 6:
A. Worldwide, people consume three times as much sugar as they did half a century ago.  
B. The extensive use of HFCS has rapidly spread from the US to the rest of the world.  
C. HFCS and naturally-occurring sucrose do not contain the same mix of chemical components  
D. The production of corn syrup yields high profits for farmers
Q17. Which of the following was NOT presented as one of the four reasons for controlling alcohol consumption by Thomas Babor and colleagues in 2003, according to Paragraph 8?
A. It is widely available
B. It is not as harmful as sugar
C. It causes social problems
D. It is harmful to health

Q18. In Paragraphs 9-12, the authors argue that:
A. Sugar, like alcohol, can lead to criminal behavior
B. There is no clear evidence as to the toxic effects of fructose on the human organism
C. Sugar is not as addictive as alcohol
D. All four reasons that Babor and colleagues cited for controlling alcohol in 2003 can equally be applied to sugar

Q19. Which of the following suggestions for curbing sugar consumption is NOT proposed in Paragraphs 13-16?
A. Restricting the times and places at which retailers are permitted to sell sugar-based products.
B. Placing a surtax on sugar-based products
C. Teaching children about the dangers of consuming sugar-based products
D. Limiting the sale of sugar-based products in schools.

Q20. According to Paragraphs 17-19, which of the following methods for reducing sugar intake might also be effective?
A. Closing down fruit and vegetable stores
B. Urging parents not to buy toys for their children
C. Increasing the provision of food-stamps to low-income families
D. Officially reclassifying sugar as Not Generally Regarded as Safe
The toxic truth about sugar

Added sweeteners pose dangers to health that justify controlling them like alcohol argue Robert H. Lustig, Laura A. Schmidt and Claire D. Brindis.

1. Last September, the United Nations declared that, for the first time in human history, chronic non-communicable diseases such as heart disease, cancer and diabetes pose a greater health burden worldwide than do infectious diseases, contributing to 35 million deaths annually.

2. This is not just a problem of the developed world. Every country that has adopted the Western diet — one dominated by low-cost, highly processed food — has witnessed rising rates of obesity and related diseases. There are now 30% more people who are obese than who are undernourished. Economic development means that the populations of low- and middle-income countries are living longer, and therefore are more susceptible to non-communicable diseases; 80% of deaths attributable to them occur in these countries.

3. Many people think that obesity is the root cause of these diseases. But 20% of obese people have normal metabolism and will have a normal lifespan. Conversely, up to 40% of normal-weight people manifest the diseases that constitute the metabolic syndrome: diabetes, hypertension, lipid problems, cardiovascular disease, non-alcoholic fatty liver disease, cancer and dementia. Obesity is not the cause; rather, it is a marker for metabolic dysfunction, which is even more prevalent.

4. The UN announcement targets tobacco, alcohol and diet as the central risk factors in non-communicable disease. Two of these three — tobacco and alcohol — are regulated by governments to protect public health, leaving one of the primary culprits behind this worldwide health crisis unchecked. Of course, regulating food is more complicated — food is required, whereas tobacco and alcohol are non-essential consumables. The key question is: what aspects of the Western diet should be the focus of intervention?

5. Denmark first chose, in October 2011, to tax foods high in saturated fat, despite the fact that most medical professionals no longer believe that fat is the primary culprit. But now, the country is considering taxing sugar as well — a more plausible and defensible step. Indeed, rather than focusing on fat and salt — the current dietary 'bogeymen' of the US Department of Agriculture (USDA) and the European Food Safety Authority — we believe that attention should be turned to 'added sugar', defined as any sweetener containing the molecule fructose that is added to food in processing.

6. Over the past 50 years, consumption of sugar has tripled worldwide. In the United States, there is fierce controversy over the pervasive use of one particular added sugar — high-fructose corn syrup (HFCS). It is manufactured from corn syrup (glucose), processed to yield a roughly equal mixture of glucose and fructose. Most other developed countries eschew HFCS, relying on naturally occurring sucrose as an added sugar, which also consists of equal parts glucose and fructose.

7. Authorities consider sugar as 'empty calories' — but there is nothing empty about these calories. A growing body of scientific evidence shows that fructose can trigger processes that lead to liver toxicity and a host of other chronic diseases. A little is not a problem, but a lot kills — slowly. If international bodies are truly concerned about public health, they must consider limiting fructose — and its main delivery vehicles, the added sugars HFCS and sucrose — which pose dangers to individuals and to society as a whole.
NO ORDINARY COMMODITY

8. In 2003, social psychologist Thomas Babor and his colleagues published a landmark book called Alcohol: No Ordinary Commodity, in which they established four criteria, now largely accepted by the public-health community, that justify the regulation of alcohol — unavoidability (or pervasiveness throughout society), toxicity, potential for abuse and negative impact on society. Sugar meets the same criteria, and we believe that it similarly warrants some form of societal intervention.

9. First, consider unavoidability. Evolutionarily, sugar as fruit was available to our ancestors for only a few months a year (at harvest time), or as honey, which was guarded by bees. But in recent years, sugar has been added to virtually every processed food, limiting consumer choice. Nature made sugar hard to get; man made it easy. In many parts of the world, people are consuming an average of more than 500 calories per day from added sugar alone.

10. Now, let's consider toxicity. A growing body of epidemiological and mechanistic evidence argues that excessive sugar consumption affects human health beyond simply adding calories. Importantly, sugar induces all of the diseases associated with metabolic syndrome. This includes: hypertension (fructose increases uric acid, which raises blood pressure); high triglycerides and insulin resistance through synthesis of fat in the liver; diabetes from increased liver glucose production combined with insulin resistance; and the ageing process, caused by damage to lipids, proteins and DNA through non-enzymatic binding of fructose to these molecules. It can also be argued that fructose exerts toxic effects on the liver similar to those of alcohol. This is no surprise, because alcohol is derived from the fermentation of sugar. Some early studies have also linked sugar consumption to human cancer and cognitive decline.

11. Sugar also has a clear potential for abuse. Like tobacco and alcohol, it acts on the brain to encourage subsequent intake. There are now numerous studies examining the dependence-producing properties of sugar in humans. Specifically, sugar dampens the suppression of the hormone ghrelin, which signals hunger to the brain. It also interferes with the normal transport and signalling of the hormone leptin, which helps to produce the feeling of satiety. And it reduces dopamine signalling in the brain's reward centre, thereby decreasing the pleasure derived from food and compelling the individual to consume more.

12. Finally, consider the negative effects of sugar on society. Passive smoking and drink-driving fatalities provided strong arguments for tobacco and alcohol control, respectively. The long-term economic, health-care and human costs of metabolic syndrome place sugar overconsumption in the same category. The United States spends $65 billion in lost productivity and $150 billion on health-care resources annually for co-morbidities associated with metabolic syndrome. Seventy-five per cent of all US health-care dollars are now spent on treating these diseases and resultant disabilities. Because 75% of military applicants are now rejected for obesity-related reasons, the past three US surgeons general and the chairman of the US Joint Chiefs of Staff have declared obesity a “threat to national security”.

HOW TO INTERVENE

13. How can we reduce sugar consumption? After all, sugar is natural. Sugar is a nutrient. Sugar is pleasure. So is alcohol, but in both cases, too much of a good thing is toxic. It may be helpful to look to the many generations of international experience with alcohol and tobacco to find models that work. So far, evidence shows that individually focused approaches, such as school-based interventions that teach children about diet and exercise, demonstrate little efficacy. Conversely, for both alcohol and tobacco, there is robust evidence that gentle 'supply side' control strategies which stop far short of all-out prohibition — taxation, distribution controls, age limits — lower both consumption of the product and accompanying health harms. Successful interventions all share a common end-point: curbing availability.
14. Taxing alcohol and tobacco products — in the form of special excise duties, value added taxes and sales taxes — are the most popular and effective ways to reduce smoking and drinking, and in turn, substance abuse and related harms. Consequently, we propose adding taxes to processed foods that contain any form of added sugars, such as HFCS and sucrose. This would include sweetened fizzy drinks (soda) and other sugar-sweetened beverages (for example, juice, sports drinks and chocolate milk), and also sugared cereal. Already, Canada and some European countries impose small additional taxes on some sweetened foods. The United States is currently considering a penny-per-ounce soda tax (about 34 cents per litre), which would raise the price of a can of soda by 10–12 cents. Currently, each US citizen consumes an average of 216 litres of soda per year, of which 58% contains sugar; taxing at a penny an ounce could provide annual revenues in excess of $45 per capita (roughly $14 billion per year); however, this would be unlikely to reduce total consumption. Statistical modelling suggests that the price would have to double to significantly reduce soda consumption — so a $1 can of soda should cost $2.

15. Other successful tobacco- and alcohol control strategies limit availability, such as reducing the hours that retailers are open, controlling the location and density of retail markets and limiting who can legally purchase the products. A reasonable parallel for sugar would tighten licensing requirements on vending machines and snack bars that sell sugary products in schools and workplaces. Many schools have removed soda and candy from vending machines, but often replaced them with juice and sports drinks, which also contain added sugar. States could apply zoning ordinances to control the number of fast-food outlets and convenience stores in low-income communities, and especially around schools, while providing incentives for the establishment of grocery stores and farmer’s markets.

16. Another option would be to limit sales during school operation, or to designate an age limit (such as 17) for the purchase of drinks with added sugar, particularly soda. Indeed, parents in South Philadelphia, Pennsylvania, recently took this upon themselves by lining up outside convenience stores and blocking children from entering them after school. Why couldn’t a public-health directive do the same?

THE POSSIBLE DREAM

17. Government-imposed regulations on the marketing of alcohol to young people have been quite effective, but there is no such approach to sugar-laden products. Even so, the city of San Francisco, California, recently instituted a ban on including toys with unhealthy meals such as some types of fast food. A limit — or, ideally, ban — on television commercials for products with added sugars could further protect children’s health.

18. Reduced fructose consumption could also be fostered through changes in subsidization. Promotion of healthy foods in US low-income programmes, such as the Special Supplemental Nutrition Program for Women, Infants and Children and the Supplemental Nutrition Assistance Program (also known as the food-stamps programme) is an obvious place to start. Unfortunately, the petition by New York City to remove soft drinks from the food-stamp programme was denied by the USDA.

19. Ultimately, food producers and distributors must reduce the amount of sugar added to foods. But sugar is cheap, sugar tastes good, and sugar sells, so companies have little incentive to change. Although one institution alone can’t turn this juggernaut around, the US Food and Drug Administration could “set the table” for change8. To start, it should consider removing fructose from the Generally Regarded as Safe (GRAS) list, which allows food manufacturers to add unlimited amounts to any food. Opponents will argue that other nutrients on the GRAS list, such as iron and vitamins A and D, can also be toxic when over-consumed. However, unlike sugar, these substances have no abuse potential. Removal from the GRAS list would send a powerful signal to the European Food Safety Authority and the rest of the world.
20. Regulating sugar will not be easy — particularly in the 'emerging markets' of developing countries where soft drinks are often cheaper than potable water or milk. We recognize that societal intervention to reduce the supply and demand for sugar faces an uphill political battle against a powerful sugar lobby, and will require active engagement from all stakeholders. Still, the food industry knows that it has a problem — even vigorous lobbying by fast-food companies couldn't defeat the toy ban in San Francisco. With enough clamour for change, tectonic shifts in policy become possible. Take, for instance, bans on smoking in public places and the use of designated drivers, not to mention airbags in cars and condom dispensers in public bathrooms. These simple measures — which have all been on the battleground of American politics — are now taken for granted as essential tools for our public health and wellbeing. It's time to turn our attention to sugar.
Nome do candidato: __________________________________________

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