

平成28年度

愛媛大学医学部一般入試（前期日程）試験問題

外国語(医学科)

(14:10~16:10)

注意事項

- (1) 試験開始の合図があるまでは、次の頁を開いてはいけません。
- (2) 解答は、解答用紙の指定のところに横書きすること。
- (3) 受験番号は、解答用紙1枚ごとに、欄内に算用数字で横書きすること。
- (4) 問題冊子は、表紙を含めて12枚で、別紙が1枚あります。解答用紙は4枚あります。

問題 1. 次の文章を読み、後の設問に答えなさい。なお「*」のついた単語については本文の後に語注が付いているので参考にしなさい。

When I was an oncology* fellow in Vienna, a colleague who had attended rounds* with me on the ward went home afterward and strangled herself. ①Only later was it learned that she had suffered from depression. In the course of that same year, three more physicians in my immediate circle — two residents and a department head — took their own lives. This stunning* series was my first encounter with physician suicide, and it left many of us doctors with an important message: we must care not only for our patients but also for ourselves. In an effort to prevent further such tragedies, a program was launched at the hospital to help physicians and nurses grapple* with the emotional effects of caring for the chronically ill. But ②the suicides that had already occurred were never discussed openly, no one undertook a publicly acknowledged serious analysis of the causes, and no other clear safeguards were put into place. The deaths were simply accepted as a fact of medical life.

Although physicians tend to have healthier lifestyles than those of the general public and thus to live longer, it has been known for some time that suicide rates among doctors are higher than those in the general population. And when these tragic events make it into the headlines, as did the recent suicide of gifted heart surgeon Jonathan Drummond-Webb, we begin to wonder why these healers apparently cannot heal the hurt in their own lives.

The gap in suicide rates evidently begins as early as medical school, where overall suicide rates are higher than in the age-matched population. This increased rate of suicide is driven largely (A) higher rates among women: female medical students commit suicide at the same rate as male medical students, whereas in the United States in general, suicide rates are much higher among men. Evidence (B) a large study of physician suicide indicates that female doctors, in particular, are much more likely than other women to take their own lives. The combined results of 25 studies suggest that the suicide rate among male doctors is 41 percent higher than that among men in general, whereas the rate among female doctors is 127 percent higher than that among women in general.

Several factors that may contribute to the suicide of physicians, especially female physicians, deserve closer examination. Physicians may have a higher prevalence of depression than non-physicians, and depression is clearly an important risk factor for suicide; among female physicians, the risk may be exacerbated* by sexual harassment; and when they become suicidal, physicians generally choose effective suicide methods.

A prevalent view is that both biologic and psychosocial factors play a role — and interact — in the decision to commit suicide. There is a higher prevalence of psychiatric disorders among physicians than in the general population. Some 30 to 70 percent of all persons who attempt suicide apparently have an affective disorder (generally depression), a substance-use-related disorder, or schizophrenia*. Evidence further suggests that drug abuse and alcoholism, possibly under circumstances of heightened stress or depression, are often associated (C) the suicides of physicians. Female physicians, in particular, have been shown to have a higher frequency of alcoholism than women in the general population. Drug abuse is also related to specialty, being particularly prevalent among psychiatrists, anesthesiologists*, and emergency physicians. Recent reports emphasize that the exposure that anesthesiologists have to drugs as they work represents a risk factor for drug addiction and possibly suicide, indicating that access to drugs may support higher suicide rates among physicians by a variety of pathways. In the general population, according to autopsy* studies and other evidence, as many as 25 percent of all persons who commit suicide are drunk at the time of their deaths.

Another way to view the problem is that the professional burden carried by doctors leads to social isolation and an increased probability of undergoing phases of disturbances in their social networks. It has also been noted that physicians tend to neglect their own need for psychiatric, emotional, or medical help and are more critical than most people of both others and themselves. They are more likely to blame themselves for their own illnesses. And they are apparently more susceptible* to depression caused by adverse* life events, such as the death of a relative, divorce, or the loss of a job.

Being single and not having children have also been linked to an increased risk of suicide, and more female than male physicians are single or childless. ③Some studies have emphasized that women in general are subject to a double burden — being vulnerable to pressures of both family life and work life. Stress and burnout may be added risk factors for all physicians, and female doctors may feel more stress than their male counterparts because of the difficulty of succeeding in a male-dominated profession.

They may also be the targets of sex-based or sexual harassment, which may, (D) turn, lead to depression and suicidality. In a study by Frank et al., 48 percent of female physicians reported having experienced sex-based (“gender-based,” per study questionnaire) harassment at least once, and 37 percent reported sexual harassment. Moreover, the study established a link between higher rates of harassment and a history of depression or suicide attempts, showing an association between the severity of harassment and the likelihood of depression. Sex-based harassment and sexual harassment are more common in historically male-dominated specialties,

such as surgery and emergency medicine. According to unpublished data from a recent U.S. study by Straehley and Longo of the difficulties women face when entering the field of medicine, more than 75 percent of interviewed female surgeons said that they had been harassed. Moreover, according to Frank et al., whose study results concurred* with these findings, harassment rates are not declining. It has been argued that the reinforcing of sex stereotypes through the promulgation* of the belief that women are innately inferior (E) men in science may well contribute to the ongoing harassment of female physicians.

Finally, physicians who make suicide attempts are much more likely than non-physicians to succeed. Among physicians in this country, in fact, there are fewer unsuccessful suicide attempts than completed suicides — a stark* contrast to the data for U.S. women in general, for instance, among whom the ratio of unsuccessful attempts to completed suicides is between 10:1 and 15:1.

Not surprisingly, the method chosen predicts the likelihood of success. Women in the general population make more unsuccessful suicide attempts than men, in large part because they prefer methods that are typically less deadly than those — such as the use of firearms — favored by men. It is possible, therefore, that the higher suicide rate among female physicians simply reflects a combination of the sex difference in the rate of suicide attempts and a higher rate of completion inside the medical profession than outside it.

According to a recent study, doctors most commonly take their own lives by poisoning themselves, often with drugs taken from their offices or laboratories. The fact that greater access to drugs leads to higher suicide rates has long been known — for example, in Australia, an increase in suicides among women coincided with the implementation* of a law that made it easier to obtain barbiturates*. It seems likely that the higher suicide rate among physicians is related to both their relatively free access to drugs and their medical knowledge, which enhances their ability to use such methods successfully.

There are few interventions in place to help prevent suicide among physicians. Such safeguards might include the provision of discreet and confidential access to psychotherapy and open discussion of the stress encountered in a medical career. ④The barriers that may prevent physicians from seeking help for mental disorders such as the threat of losing their medical licenses must also be addressed. Part of the solution for female doctors must ultimately be to equalize professional conditions in order to reduce stress. In time, perhaps these and other measures will help doctors to do what they do best: save lives, beginning with their own.

(出典 : Eva Schernhammer 著. N Engl J Med 2005; 352: 2473. 一部改変)

[語注]

oncology	腫瘍学
rounds	回診
stunning	気絶させる
grapple	取り組む
exacerbate	悪化させる
schizophrenia	統合失調症 (精神分裂病)
anesthesiologist	麻酔科医
autopsy	病理解剖 (剖検)
susceptible	影響されやすい
adverse	不運な
concur	一致する
promulgation	発布
stark	際立った
implementation	実施
barbiturate	精神安定剤

[設問 1] 本文中に使用されている下線部の付記された単語 a～e のうち、アクセントの位置の異なる単語を記号で答えなさい。

(1) a. colleague b. afterward c. indicate d. particular e. prevalence

(2) a. alcoholism b. difficulty c. likelihood d. laboratory e. coincide

[設問 2] (A) ～ (E) に入る適当な単語を記号で選びなさい。なお、同じ単語を2度以上用いないこと。

a. by b. in c. to d. from e. with

[設問 3] 二重線 commit suicide と同じ意味を持つ表現を下記の選択肢より1つ選びなさい。

- a. blame their own lives
- b. neglect their own lives
- c. poison themselves
- d. strangle themselves
- e. think less of their own lives

[設問 4] 下線部①を日本語に訳しなさい。

[設問 5] 下線部②を日本語に訳しなさい。

[設問 6] 下線部③を日本語に訳しなさい。

[設問 7] 下線部④を日本語に訳しなさい。

[設問 8] 本文を参考に図 (別紙) の説明として正しい文章を 2 つ選びなさい。

- a. それぞれの研究における男女別の医師の suicide の人数を示している。
- b. 男性医師、女性医師の suicide に関する研究のうち、男女ともに同じ数だけの研究データが示されている。
- c. 黒塗りの四角の箱の大きさは、それぞれの研究のデータ解析に用いられた相対的な人数の多さを表している。
- d. 男性医師の suicide の率は一般男性の 1.41 倍である。
- e. 女性医師の suicide の率は一般男性の 2.27 倍である。

[設問 9] 本文のタイトルとして最もふさわしいものを選びなさい。

- a. Adverse life events and suicide
- b. High rate of physician's suicide
- c. Stress of female physicians
- d. Cause of death among physicians
- e. Jonathan Drummond-Webb's death

問題 2. 次の文章を読み、後の設問に答えなさい。なお「*」のついた単語については本文の後に語注が付いているので参考にしなさい。

April 25, 2015, began like any other day at the remote (ア) Himalayan Rescue Association (HRA) clinic in Pheriche, Nepal, where I'd been working as a volunteer physician for the past 6 weeks. Days had passed quickly while ①our team cared for international trekkers and climbers, as well as local Nepalis, treating routine illnesses and addressing high-altitude emergencies. But on this day around noon, the ground began quaking beneath my feet as I sat in our living space. My bewilderment* quickly dissipated as I darted outdoors to join the rest of the village in the open spaces. Time seemed to slow as I watched buildings crumble* through a haze of dust and snow. Screams filled the air.

As the earth quieted, we discovered that despite widespread structural destruction in the village, there was only one minor injury. Disruptions* in phone and radio communications made contact with loved ones and our HRA colleagues, including (イ) Everest Base Camp (EBC) farther up valley, difficult to impossible. Rumors of the extent of the damage in other regions began to circulate. With limited contact with the world outside the village, anxiety grew.

Given the continued aftershocks*, many people remained outdoors. As an emergency physician, I began preparing myself for patients who could arrive at any time. A light snow covered the ground as we waited.

Nine hours later, our clinic received the first two casualties* from EBC and only then learned that the camp had been hit by a horrific* avalanche* off Pumori mountain. Early the next morning, we were notified that all the wounded from EBC would be transported to our small clinic by helicopter.

Phase two of this mass-casualty incident occurred at 4200 m in a remote wilderness region called Pheriche. Our clinic was a three-bed facility with limited resources, and the nearest hospital was approximately 15 hours by foot down a narrow, uneven trail. The situation was further complicated by stormy weather, so a timeline for evacuation* to urban hospitals remained uncertain at best. About 150 people came to assist us, some spontaneously and some recruited. They seemed to step seamlessly into the necessary roles as our community joined together for a common purpose. Our clinic filled instantly, so overflow patients were placed in our sunroom and the dining room of the neighboring lodge.

Most patients' wounds were consistent with blast injuries from the high-velocity avalanche. Clinicians at EBC had provided marvelous care, and our team furthered treatment with our available resources. We placed a large piece of white tape on each patient's chest and marked it with his or her name, presumed injuries, vital signs, and drugs administered. Although my

training had prepared me to deal with such crises, we lacked subspecialty care, access to blood products, and imaging diagnostics other than ultrasound.

Yet we were lucky. The weather cleared, permitting same-day evacuation of all patients down to the (ウ) nearest hospital in Lukla. As the last helicopter departed, our team determined that we had evacuated 73 patients, ranging from a hypotensive patient with multiple extremity injuries to the “walking wounded.” The crowd celebrated our united achievement and then respectfully dissipated* into the cloudy afternoon.

Wilderness medicine, a subspecialty of emergency medicine, is practiced in austere* environments with limited resources and therefore naturally intersects* with disaster medicine and global health. It draws on* skills that any medical professional might one day require to ease suffering and pain, (A) in a hospital or clinic or on a remote vacation, airplane, or isolated country road. In part because of the scarcity of resources, wilderness medicine is as much an art as a science. A first responder at EBC, for instance, had ingeniously* fashioned a femur traction* splint out of a tent pole, padded preformed splints, and duct tape. By necessity, creativity flows. When required, simple materials can be sculpted into lifesaving devices.

With no laboratory and limited imaging capabilities, wilderness medicine physicians focus on the history and physical exam, spending far more time (B) contact with patients than an emergency physician in a high-income country generally can. In Pheriche, I carefully palpated* the length of each patient's bones to determine the pretest probability of a fracture so that I could appropriately allocate* scarce resources. With no surgeons and a minimal drug supply, analgesic medications* became first-line treatments. As I protected my patients from the bitter temperatures, I attempted to provide whatever comfort I could in this harsh environment. Patient Evacuation from Pheriche to Lukla, Nepal, by Mi-17 Helicopter.

As a team of three physicians, two clinic managers, a photographer, and a cook, we could never have given the massive influx* of patients the quality of care they deserved. So, upholding our Hippocratic Oath*, we did not “fail to call in [our] colleagues” — medical and nonmedical volunteers alike. Members of our suddenly expansive* team ranged from a physician from EBC and trekkers and villagers with first-aid training or medical backgrounds to people carrying stretchers, lodge workers distributing tea, and volunteer administrators recording names. Everyone gave their time without hesitation and overcame enormous stressors, time pressures, language barriers, and difficult working conditions. Though emergency medicine anywhere thrives on a team effort, the smooth collaboration of such a diverse international team in this small remote village was unlike anything I'd ever seen. The avalanche was a small event in the breadth of devastation*, suffering, and death affecting the region. ②I became one minor player in a disaster response that extended from the moment the blast wave struck EBC to patients' release from the urban hospitals that received our evacuees.

Far from my home institution's seemingly infinite resources, I was severely limited in the ways that I could heal my patients. I thus returned to the foundations of medicine outlined by Hippocrates, "warmth, sympathy, and understanding," dispensing a lingering touch on a shoulder, a hand squeeze, a tissue for wiping tears, or assistance in drinking tea. ③I realized that the technology that so often invades our clinical interactions at home may obscure the humanity that is fundamental to our practice — the power of the human touch or the listening ear. Even in Boston, it's these human moments that I remember most after a clinical shift, and such experiences are what will remain with me after the tragedy in Nepal, reminding me of the art, humanity, and teamwork inherent in the medicine I am privileged to practice.

出典 : Renee N.Salas N Engl J Med 2015; 373: 205-207. より引用 (一部改変)

[語注]

bewilderment 理解できないことによる混乱
crumble ボロボロに崩れる
disruption 分断
aftershock 余震
casualty 負傷者
horrific ものすごい
avalanche 雪崩
evacuation 退避
dissipate 〈悲しみ・恐怖などを〉消す, 晴らす
austere 厳しい
intersect 交差する
draw on 頼る
ingeniously 巧妙に
femur traction 大腿骨牽引
palpate 触診する
allocate 配分する
analgesic medication 鎮痛薬
influx 殺到
Hippocratic Oath 「ヒポクラテスの誓い」医師の倫理・任務などについての、ギリシア神への宣誓文
expansive 拡張的な
devastation 惨状

[設問 1] 文章中の (A) に入る適切な単語を次から選びなさい。

- a. although
- b. because
- c. considering
- d. whenever
- e. whether

[設問 2] 文章中の (B) に入る適切な単語を次から選びなさい

- a. as
- b. to
- c. of
- d. in
- e. by

[設問 3] 文章中の(ア)、(イ)、(ウ)の下線で示す 3 つの場所の位置関係を、高度が高い順に並べたものを a ~ f より一つ選びなさい。

- (ア) Himalayan Rescue Association (HRA) clinic
- (イ) Everest Base Camp (EBC)
- (ウ) the nearest hospital in Lukla.

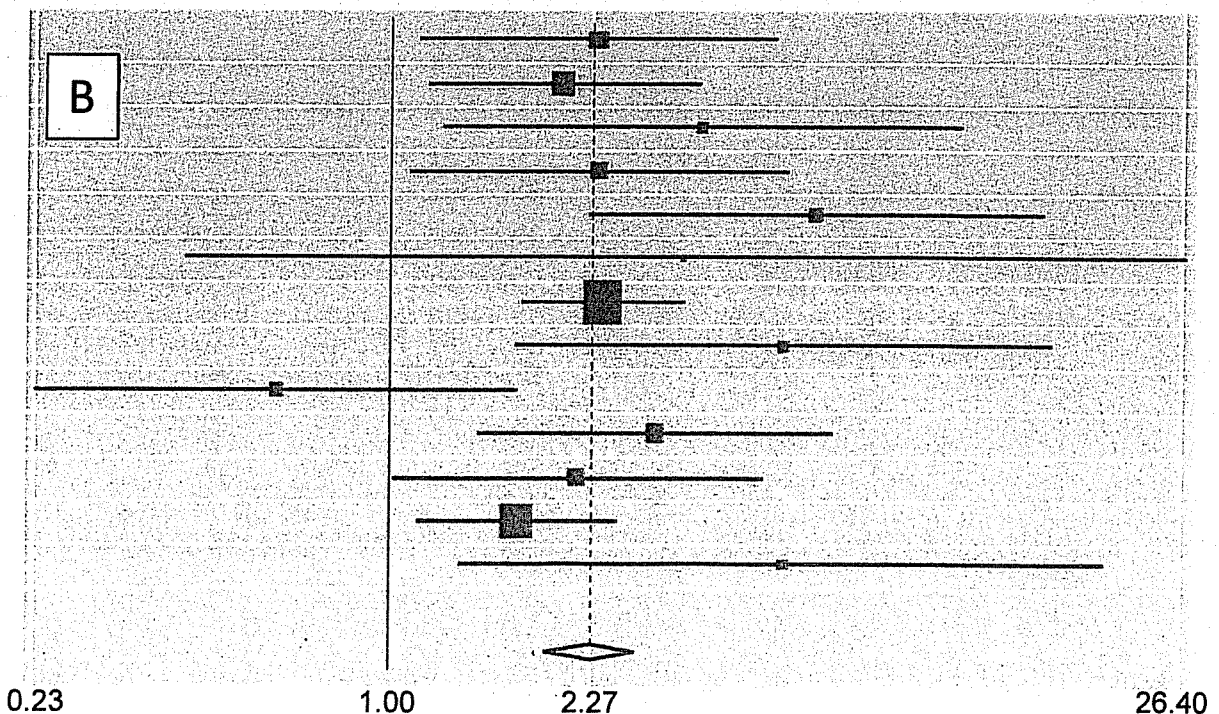
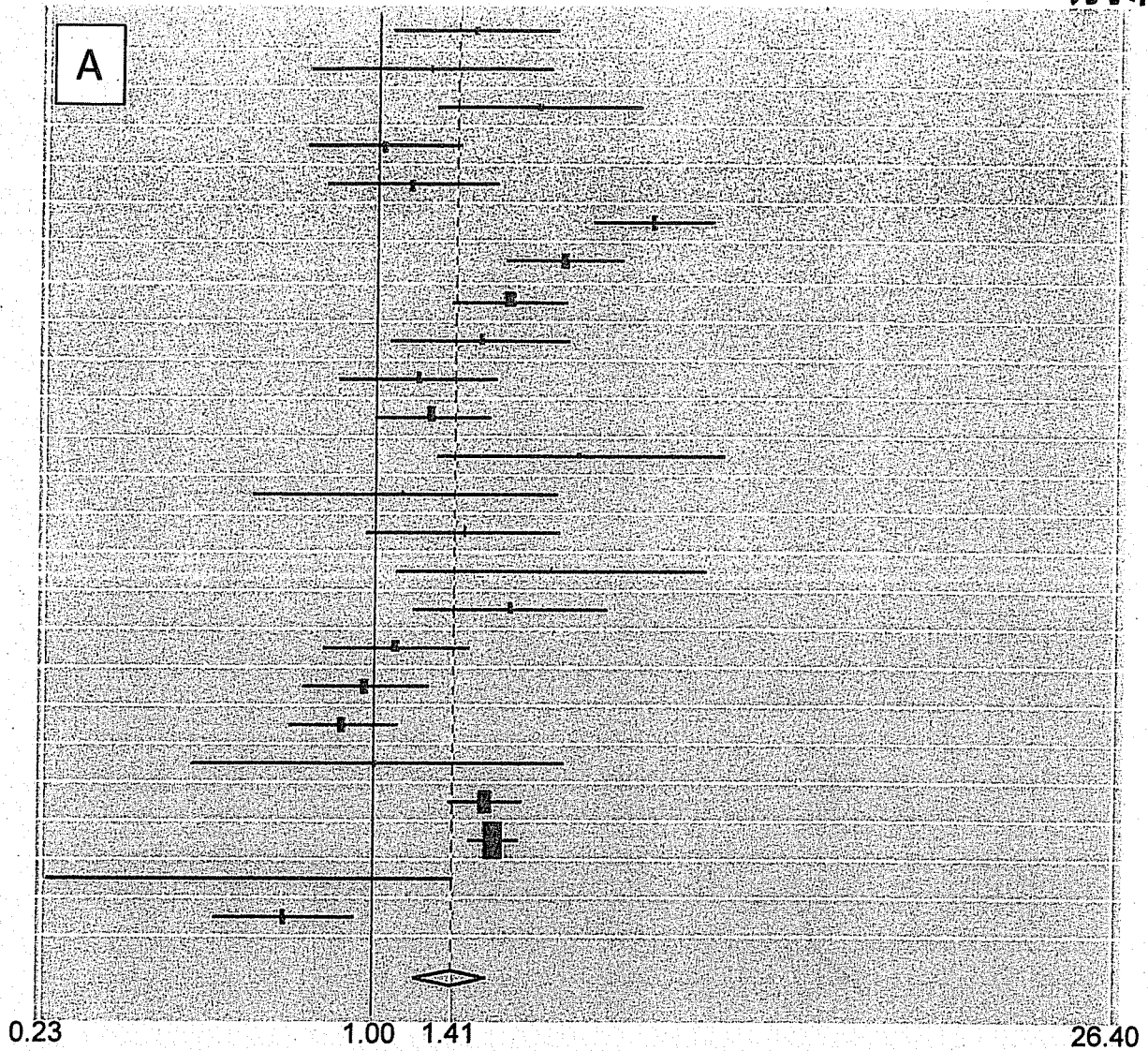
- a. (ア)→(イ)→(ウ)
- b. (ア)→(ウ)→(イ)
- c. (イ)→(ア)→(ウ)
- d. (イ)→(ウ)→(ア)
- e. (ウ)→(ア)→(イ)
- f. (ウ)→(イ)→(ア)

[設問 4] 下線部①の our team の構成を具体的に示している部分を、文章中から英文で抜き出して答えなさい。

[設問 5] 著者らは、地震のあと Everest Base Camp (EBC)から運ばれてきた大勢の患者を的確に把握するために、どのように対応したか。句読点を含めて 60 字以内の日本語で答えなさい。

[設問 6] 下線部②を日本語に訳しなさい。

[設問 7] 下線部③の意味する内容を 120 字以内の日本語で説明しなさい。



Suicide Rates among Male Physicians (Panel A) and Female Physicians (Panel B) in Relation to the Rates in the General Population of the Same Sex.

The size of each box represents the relative size of the study sample, and the horizontal line that intersects the box indicates the 95 percent confidence interval. The dashed line in each panel indicates the combined estimate. The diamond-shaped box represents the confidence interval.