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メタデータ	言語: English 出版者: 琉球医学会 公開日: 2014-03-11 キーワード (Ja): キーワード (En): medical students, misconception, education, depression, treatment 作成者: Fukuhara, Hiroshi, Michishita, Satoshi, Nakamoto, Yuzuru, Kuba, Teizo, Yakushi, Takashi, Singeo, Singeru Travis Jr, Tanaka, Osamu, Kondo, Tsuyoshi メールアドレス: 所属:
URL	<a href="http://hdl.handle.net/20.500.12000/0002016258">http://hdl.handle.net/20.500.12000/0002016258</a>

## Effects of anti-stigma-focused lecture on recognition of depression and its treatments among medical and non-medical university students

Hiroshi Fukuhara<sup>1)</sup>, Satoshi Michishita<sup>1)</sup>, Yuzuru Nakamoto<sup>1)</sup>, Teizo Kuba<sup>1)</sup>, Takashi Yakushi<sup>1)</sup>, Singeru Travis Singeo Jr<sup>1)</sup>, Osamu Tanaka<sup>1)</sup> and Tsuyoshi Kondo<sup>1)</sup>

<sup>1)</sup>Department of Neuropsychiatry, Faculty of Medicine, University of the Ryukyus, 207 Uehara, Nishihara, Okinawa 903-0215, Japan

(Received on March 14, 2012, accepted on May 7, 2012)

### ABSTRACT

**Aims:** We aimed to investigate the effects of anti-stigma-focused lecture to improve recognition of depression and attitudes toward its treatments among medical and non-medical university students. **Method:** Subjects were the first-year non-medical (X1: n=193) and medical (M1: n=203) undergraduates and the fourth-year medical students (M4: n=160). Only the M4 group had been previously exposed to medical lectures on depressive disorders. A questionnaire consisting of 8 items for common misconception about depression and 10 items for attitudes toward its treatments was administered to each subject before and after the educational lecture, which were evaluated by 5-scale steps. **Results:** Most recognitions were significantly improved within each group after the lecture. The M4 group had lesser stigmas than the X1 or M1 group on baseline scores of fear, lack of knowledge, self-manageable disease, approaches to depressed others and several medication-associated items, while additional superiority in recognition became apparent in the items of weakness and perfect self-awareness after the lecture. Medical students (M1 and M4) showed less stigma than the X1 group in burden to others and self-manageable disease before the lecture, and on over-expectation to counseling and most of medication-associated items after the lecture. **Conclusion:** Superiority in recognition in the M4 group can be explained by the previously acquired medical knowledge and its synergic effects with the anti-stigma-focused lecture. Impact of enlightening effects differed between medical and non-medical students probably due to the difference in motivation to acquire medical-model thinking and approaches to depression. *Ryukyu Med. J., 31(1,2)25~33, 2012*

Key words: medical students, misconception, education, depression, treatment

### INTRODUCTION

The number of suicide deaths in Japan exceeds over 30,000 every year since 1998<sup>1)</sup>. Although various counter-measures for suicide prevention were launched in 2006, the suicide rate has remained around 25 per 100,000 people, which is considerably high among all the countries in the world<sup>2,3)</sup>.

According to World Health Organization (WHO) in 2002, 98% of those who committed suicide had diagnosable mental disorders, of which

about 35% were suffering from mood disorders<sup>4)</sup>. Moreover, about 80% of the suicide completers were untreated<sup>5-7)</sup>, although most of them had access to medical professionals. However, it is noted that they usually tended to visit general practitioners rather than psychiatrists<sup>7-9)</sup>.

The role of primary care physicians in the early stage of suicide prevention is critical, because up to 83% of suicide completers had contact with a primary care physician within a year of their death and up to 66% within a month according to



the national data in Denmark<sup>5,9</sup>). In Japan, Miki (2002) reported that 64.7% of patients with depression consulted internists whereas only 5.6% visited to see psychiatrists<sup>10</sup>. Accordingly, these results indicate a possibility that general practitioners can play a major role in the frontline of suicide prevention.

In fact, suicide rate was consistently reduced in accordance with enhanced intervention activities by general practitioners receiving intensive educational program for suicide prevention in the Swedish island of Gotland<sup>11-14</sup>. Thereafter, this strategy was nationwide introduced to all the regions in Sweden. As a result, Swedish suicides gradually decreased after continuous educational programs on early detection and initial treatment of depression for general practitioners in primary care settings. Nevertheless these interventional effects never lasted more than three years, thus, regular trainings were regarded as necessary to maintain a requisite level in primary care intervention for depression and suicides<sup>14</sup>.

Meanwhile, early exposure to suicide prevention education has seemingly become an important challenge in medical students and resident doctors, who may play a major gate-keeping role for suicide prevention in the near future. Especially for medical students who lack clinical experience, the most suitable and effective education for suicide prevention should be carefully considered to enhance their interest and motivation for this important issue together with a sense of responsibility<sup>15-18</sup>. Although it is generally suggested that higher grade students tend to acquire in-depth understanding of suicide-associated matters<sup>17,18</sup>, the best timing and approaches for the education have not been clarified yet.

Detection of depression by gatekeepers seems essential as the first step of suicide prevention, since considerable number of suicide victims have been known to suffer from untreated mood disorders before their death according the data of psychological autopsy<sup>4-7</sup>. However, public citizens usually feel difficulty in getting contact with depressed others due to their prejudice against and misunderstanding of depression. To break taboo and myths surrounding suicide and correct public misconceptions associated with depression, we prepared an anti-stigma-focused lecture for depression and its treatments based on our previous

data of public consciousness associated with prejudice/misconception surrounding depression and the intervention outcome by a general non-focusing lecture<sup>19</sup>. Using this educational lecture, we aimed to investigate the effects of anti-stigma-focused lecture on recognition of depression and attitudes toward its treatments in medical and non-medical university students, together with synergic effects between this anti-stigma-focused lecture and previously acquired medical knowledge on improvement in the recognition among higher grade medical students.

## METHODS

### Subjects

An investigation commenced from January, 2006 to June, 2010. Subjects, who responded to our survey questionnaire, were first-year non-medical students (X1:  $n=193$ , 92 males and 101 females,  $19.3 \pm 1.4$  years), first year medical undergraduates (M1:  $n=203$ , 173 males and 30 females,  $22.1 \pm 5.0$  years) and fourth-year medical students (M4:  $n=160$ , 99 males and 61 females,  $24.7 \pm 4.5$  years). Only the M4 group had been previously exposed to medical lectures on depressive disorders (180 minutes).

### Procedure

The same anti-stigma-focused lecture (60 minutes), which was originally made up as an educational lecture on depression and its treatments for public citizens by Fukuji and colleagues<sup>19</sup> and was slightly modified for young generation, was given to the X1 group as one of serial lectures for "Health Science", the M1 group as a lecture for "Introduction of Clinical Medicine" and the M4 group as one of systematic lectures for "Clinical Psychiatry" by the same lecturer. Content of the lecture contains prevalence of depression as a treatable common disease, precipitating factors for the onset of the disease, symptomatology and general course of depression, psychology in patients at an early stage of depression (e.g., hopelessness, helplessness, worthlessness, guilt feeling, pessimism, lack of insight, suicidal ideation), likely but not preferable attitudes toward depressed persons by surrounding others (e.g., encouragement,



optimism, distraction, persuasion, criticism), importance of supportive approaches by gatekeepers, necessity of biological and psychological treatments as a medical model not as a personal problem.

A questionnaire (Table 1), which was the exactly same one previously used for investigation of public consciousness toward depression and its treatments by Fukuji and colleagues<sup>19)</sup> was administered to each subject before and after the anti-stigma-focused lecture, consisting of 8 items for common misconceptions surrounding depression (fear, lack of knowledge, weakness, shame, burden to others, escaping from reality, perfect self-awareness, self-manageable disease) and 10 items for attitudes toward its treatments (help-seeking, consulting with family, visiting general practitioners, visiting psychiatrists, over-expectation to counseling, attitudes toward medication (reluctance to medication, concern for drug dependence, adherence to acute treatment, maintenance for relapse prevention) and approaches to depressed others). Their recognition and attitudes were evaluated by 5-scale steps (from -2 as very negative to +2 as very positive). Cronbach's alpha was

to participate in our research, and the data were anonymously treated during the study. The study protocol was approved by the Ethics Committee of University of the Ryukyus.

### Statistical analyses

The data were analyzed on the basis of nonparametric statistics. Wilcoxon signed-rank test was conducted for analysis of enlightening effects before and after the educational lecture within each group. Kruskal-Wallis H-test with Bonferroni correction was used for comparison of various data among the three student groups. Mann-Whitney U test was performed for analyses of gender effects, respectively. A two-tailed P value less than 0.05 was regarded as statistically significant. SPSS 11.0 for Windows (SPSS Japan Inc., Tokyo, Japan) was used for these statistical analyses.

## RESULTS

The mean age was significantly ( $P < 0.005$ ) different among the three student groups (M4:

Table 1 **Basic attribute of subjects (n=27)**

Misconceptions about depression	
1. Fear	Depression is fearful disease.
2. Lack of Knowledge	I do not have enough knowledge of depression.
3. Weakness	Weak people suffer from depression.
4. Shame	Suffering from depression is shameful.
5. Burden to others	Suffering from depression may bother others.
6. Escaping from reality	Depression is an escape from reality.
7. Perfect self-awareness	I can be fully aware of my depressive state.
8. Self-manageable disease	I can get over depression by myself.
Attitudes toward treatments	
1. Help seeking	Do you ask for someone's help without hesitation?
2. Consulting with family	Do you consult with your family?
3. Visiting general practitioners	Do you go to see a general practitioner?
4. Visiting psychiatrists	Do you go to see a psychiatrist?
5. Over-expectation to counseling	Do you want to get over depression only by counseling?
6. Reluctance to medication	Are you reluctant to take antidepressant medication?
7. Concern for drug dependence	Are you afraid of drug dependence?
8. Adherence to acute medication	Can you wait for slow-onset of antidepressant effects?
9. Maintenance therapy	Will you stop medication soon after getting well?
10. Approaches to depressed others	Do you encourage others who look depressed?



was significantly deviated ( $P < 0.05$ ), i.e., more males in the medical student groups than the non-medical student groups (M1: 85.2% > M4: 61.9% > X1: 47.7%).

The anti-stigma-focused lecture significantly improved the recognition of depression and attitudes toward its treatments within each group except an item for self-awareness of depression in the X1 and M1 groups (Fig. 1 and 2). However, burden to others (X1, M1 and M4), fear (X1 and M1) and over-expectation to counseling (X1) still remained in negative direction even after the lecture (Fig. 1 and 2).

As for baseline recognition and attitudes, the M4 group were superior to both the X1 and M1 groups in fear, lack of knowledge and self-manageable disease for the recognition of depression, and medication-associated items (concern for drug dependence, adherence for acute treatment and maintenance for relapse prevention) and approaches to depressed others for attitudes toward the treatments of depression (Fig. 3). The M4 group also showed better recognition in weakness than the X1 group at baseline (Fig. 3). The X1 group had less positive recognition of depression in burden to others and self-manageable disease than the M1 and M4 groups (Fig. 3).

After the educational lecture, additional superiority in the M4 group became apparent in weakness (vs. X1 and M1), escaping from reality (vs. X1) and perfect self-awareness (vs. X1 and M1) as shown in Fig. 4. Also, the medical student groups (M1 and M4) showed more positive attitudes than the non-medical group (X1) regarding such treatment-associated items as over-expectation to counseling, reluctance to medication, adherence to acute medication, maintenance therapy and approaches to depressed others (Fig. 4).

## DISCUSSION

Although university students often face multiple stressors such as academic, social, interpersonal and economic problems, they usually pay less attention to their own mental health. Since high prevalence of depression in this generation is almost comparable to adults<sup>3</sup>), educational intervention for mental health promotion among university students has been regarded as important. However, our previous report has suggested that

younger generation is unlikely to consult with family or visit a general practitioner even when they may suffer from depression, compared with other older generations<sup>19</sup>). This may imply that the combination of right recognition of depression as an medically-treated disease and enhanced peer-support capability is a suitable approach among young subjects.

Non-medical university students in the present study are regarded as the representative of highly-educated young generation. Our educational lecture was partially but significantly effective in reducing misconceptions about depression and negative attitudes toward its treatments (Fig. 1 and 2). However, different from medical students with greater interest in depression and higher motivation for its treatments, non-medical students relatively have difficulty in understanding that depression is not necessarily a self-manageable disease and also have difficulties in reducing over-expectation to counseling and reluctance to medication including acute and maintenance therapy (Fig. 4). Therefore, it may be advisable to emphasize the salience of seeking professional/medical consultation rather than mere self-management. In addition, well-balanced combination of psychotherapy and pharmacotherapy should be strongly emphasized during mental health education for general university students after wiping out their persistent fear and guilt feeling associated with depression.

Meanwhile, medical students are the primary potential gate-keepers for suicide prevention. In particular, doctors in training are obliged to experience primary care of depression during two years of early residency for general physician training in Japan<sup>20</sup>). Therefore, the medical school curriculum should stress the importance of treatment of depression in primary care setting combined with a sense of responsibility for suicide prevention<sup>15-18</sup>). However, little is known about general recognition of depression and attitudes toward its treatments among medical students or about the efficient timing/effective strategy for the educational approaches to them.

Regarding recognition of and attitudes toward suicide among medical students, previous reports indicate that Japanese students were more prone to approve the right to commit suicide than North American students<sup>21</sup>). Meanwhile, another

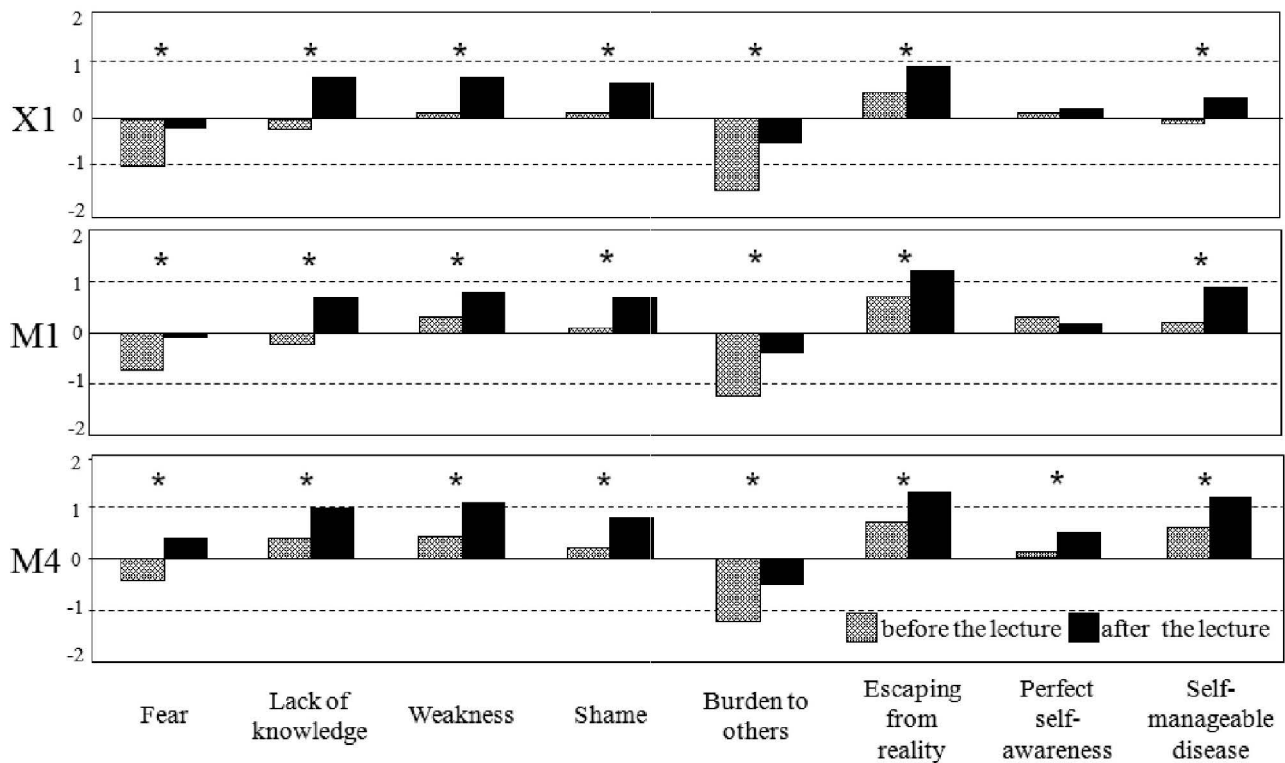


Fig. 1 Changes in recognition of depression in the first-year non-medical (X1: n=193) and medical undergraduates (M1: n=203) and the fourth-year medical students (M4: n=160). Most of recognitions were significantly improved within each group after an educational lecture (\*:  $P < 0.001$ ).

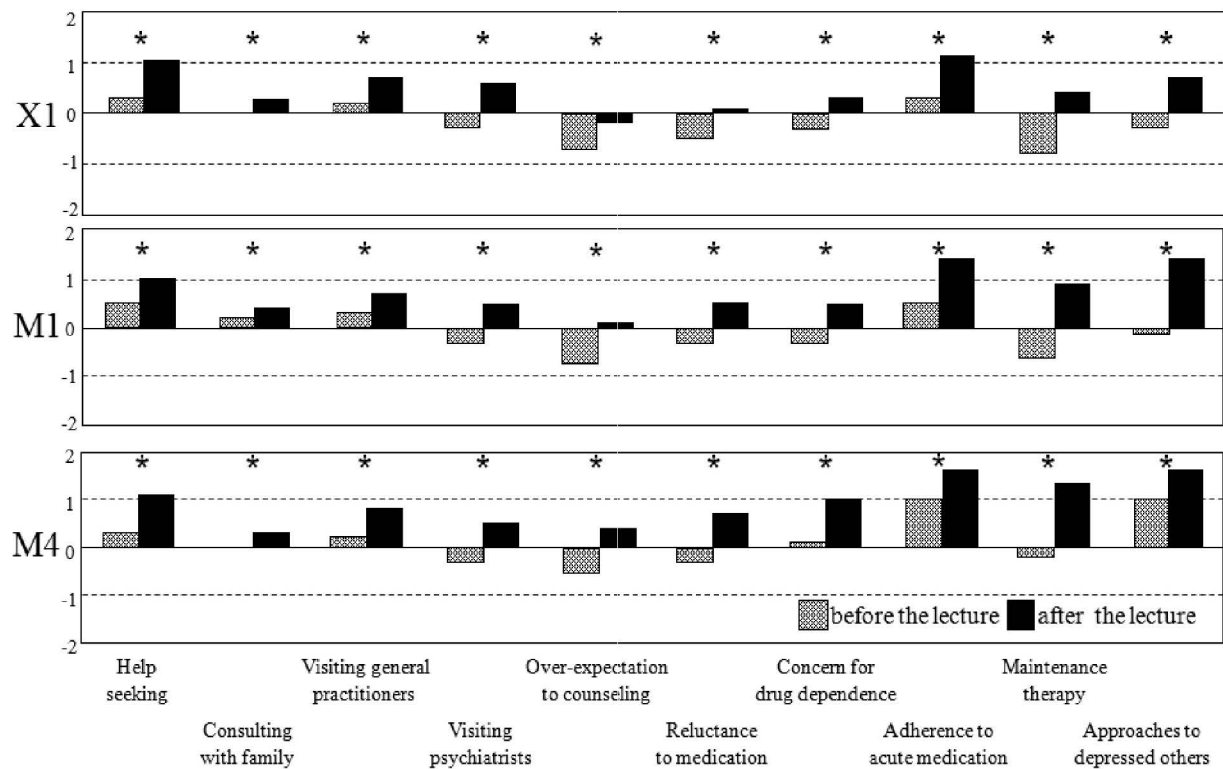


Fig. 2 Changes in attitudes toward treatments of depression in the first-year non-medical (X1: n=193) and medical undergraduates (M1: n=203) and the fourth-year medical students (M4: n=160). All the items were significantly improved within each group after an educational lecture (\*:  $P < 0.001$ ).



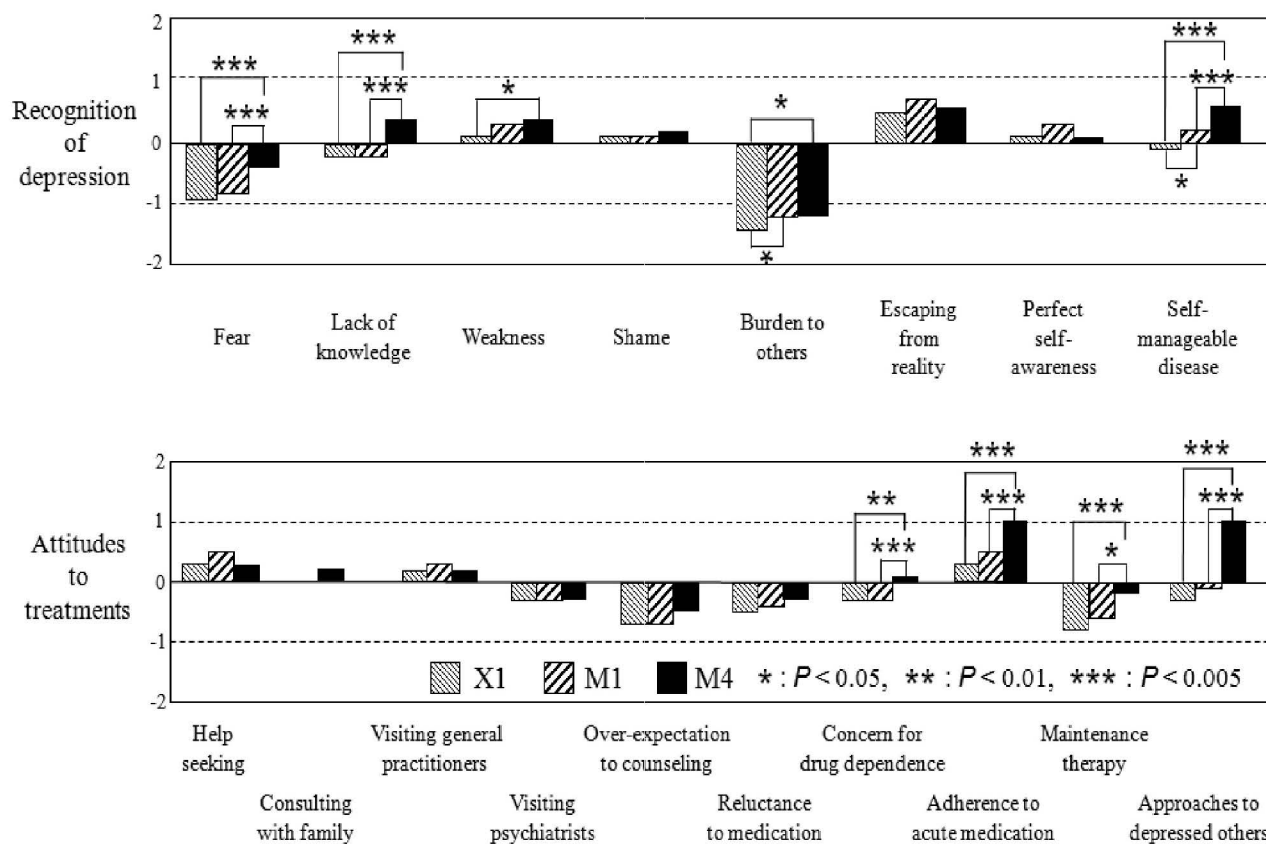


Fig. 3 Comparison of baseline scores in recognition of depression and attitudes toward its treatments among the first-year non-medical (X1:  $n=193$ ) and medical undergraduates (M1:  $n=203$ ) and the fourth-year medical students (M4:  $n=160$ ).

study revealed that medical students in India showed stronger rejection towards suicide than those in Austria<sup>22</sup>. These suggest that cultural differences in subjective impressions of suicide-associated issues exist, which may be also the case with stigma and misunderstanding against depression and its treatments. In fact, negative recognition of depression (fear and burden to others) and negative attitudes toward its treatments (visiting psychiatrists, over-expectation to counseling, reluctance to medication, low motivation for maintenance therapy) were also common at baseline even among Japanese medical students in this study (Fig. 1 and 2). As far as considering the present results, most of recognition and attitudes were shifted to more positive direction by our educational approach. Thus, the anti-stigma-focused lecture would be a useful option to efficiently reduce misconception and negative images surrounding depression and its treatments.

It is also important to determine the most

suitable timing when the anti-stigma-focused lecture works best for medical students. Wallin and Runeson indicate that the final year medical students often considered suicide to be an expression of psychiatric disease compared with first year medical students<sup>18</sup>. Sato et al. have subsequently reported that the knowledge of suicide increases over the years with medical students<sup>17</sup>. The present study also revealed that senior student had better understanding of depression and its treatment with less misconceptions at baseline (Fig. 3), which was consistent with other previous studies<sup>17,18</sup>. Furthermore, more positive recognition and attitudes were generally observed after the lecture in the 4th year medical students (Fig. 4), who were already exposed to systematic lectures for mood disorders. This might suggest that senior students more rationally regard depression as a disease and consider its treatment in a medical model, and that synergic effects between the previously acquired medical knowledge and the anti-stigma-

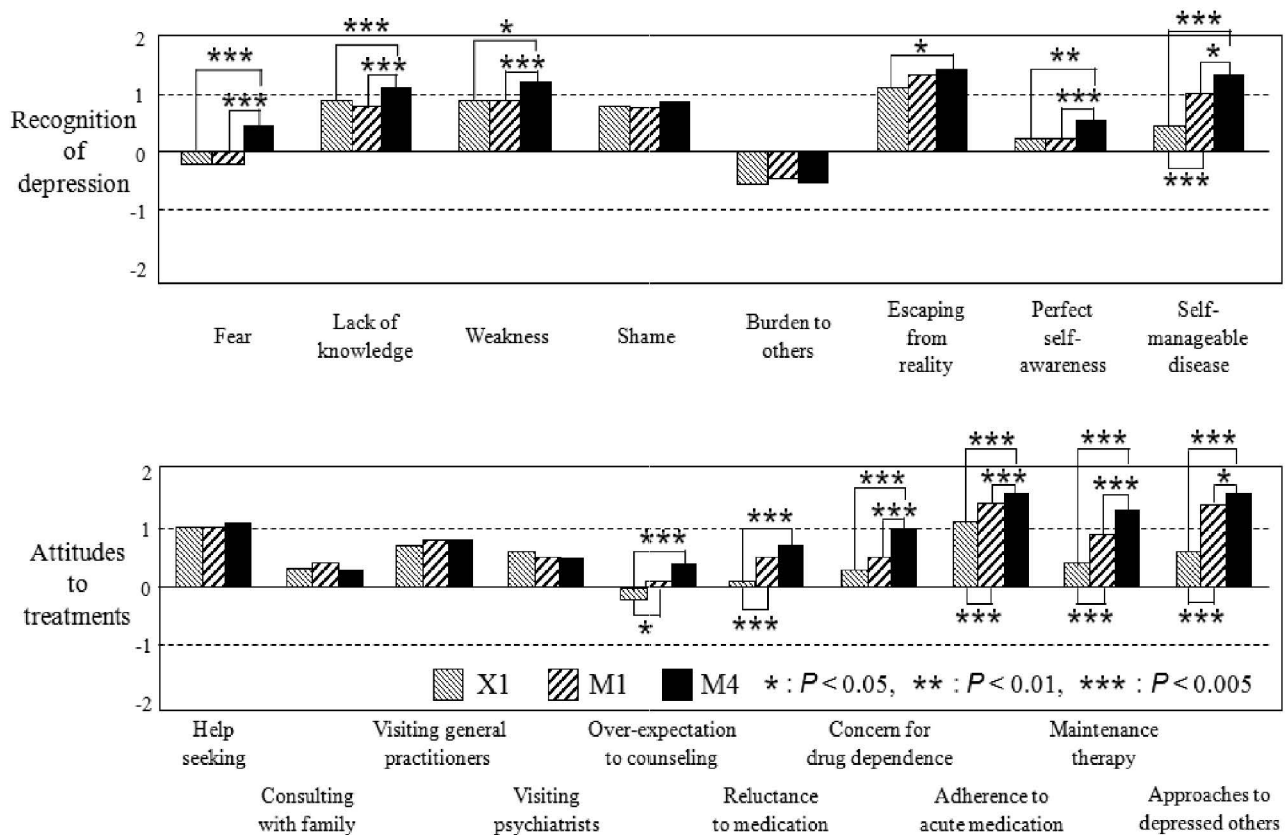


Fig. 4 Comparison of post-lecture scores in recognition of depression and attitudes toward its treatments among the first-year non-medical (X1:  $n=193$ ) and medical undergraduates (M1:  $n=203$ ) and the fourth-year medical students (M4:  $n=160$ ).

focused lecture further promote their recognition and attitudes in more positive direction.

Only the single lecture for enlightening intervention might not have resulted in durable and powerful enough effects although consistency of the enlightening effects was not reexamined in the present study. This point is one of the limitations for our study design. Furthermore, for younger subjects, to reduce stigma, traditional lectures joined with active learning to acquire peer-supporting capability, e.g., role-playing session, may be helpful in facilitating their potential gatekeeper role. Future studies need to be designed as a strategic intervention with a series of systematic program, and its long-lasting effects should be tested. Nevertheless, even one lecture efficiently showed a considerable impact to alter the recognition and images of depression and its treatments in university students who are generally unfamiliar with mental health problems in the present study. Therefore, as shown in a recent

report<sup>23)</sup>, more comprehensive enlightening intervention program to promote mental health will be expected as a promising strategy for young generation.

Another limitation exists in a selection of subjects for this study because the three student subgroups (X1, M1 and M4) have different distributions in age and gender. Therefore, possibility of the effects of age and gender on the present results cannot be entirely ruled out. However, in reality, it is difficult to control age and gender distributions between medical and non-medical university students. Relatively small age gap among the groups in the present study and no significant gender differences in public recognition of depression and its treatment in previous studies<sup>15, 19, 23, 24)</sup> may justify that much greater effects of the grade and faculty, which students belong to, are involved in the present results.



## CONCLUSIONS

Single anti-stigma-focused lecture significantly improved recognition of depression and attitudes toward its treatments in medical and non-medical university students. The impacts of the enlightening effects are different among the three student groups, i.e., the 4th year medical students (M4) > the 1st year medical students (M1) > the 1st grade non-medical students (X1). Superiority in recognition in the M4 group can be explained by previously acquired medical knowledge and its synergic effects with the anti-stigma-focused lecture. Impacts of enlightening effects differed between medical (M1 and M4) and non-medical students (X1) probably due to the difference in motivation to acquire medical-model thinking and approaches to depression.

## ACKNOWLEDGEMENTS

We thank medical and non-medical university students for their active participation in the present study.

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