#7EE Posters: Ethics and Empathy / Medical Education Research
Location: Hall 4, SECC

#7EE01 (26016)
Education of clinical ethics at hospital corners: a creative and effective approach for education of clinical ethics in the hospital

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Background: Most of the formal educational activities for clinical ethics are classroom-based but ethical conflicts in clinical encounters are closely related to the situational factors such as time, place and interactions among related people. Therefore, Kaohsiung Medical University Hospital adapted a new approach named "education of clinical ethics at the hospital corners" to provide the situated educational opportunity of clinical ethics.

Summary of Work: Lectures and a poster competition were conducted to create educational materials of ethical issues that are closely linked to different sites in the hospital. Information were incorporated with images to create knowledgeable and imaginary educational materials for students, staffs and patients. Posters were evaluated according to the significance of the ethical issue, placing of the poster, educational design and reproducibility. Thirty-eight posters were created with themes including truth-telling, DNR, patient privacy, hospice & palliative care and medical expense dispute. A map for finding posters was also created to guide the learning or teaching upon these materials.

Summary of Results: These educational posters took learners out of campus and hospital classrooms. Medical, nursing and pharmacy students were arranged to use these posters to assist their learning of biomedical ethics across the hospital. Surveillance found our activities effective in raising awareness of ethical issues and in delivery of essential knowledge.

Discussion and Conclusions: Our approach of using artistic educational posters in hospital corners would be an alternative and effective way for situated education of clinical ethics.

Take-home messages: Every hospital corner could be the classroom for learning of clinical ethics if good educational materials are provided.

#7EE02 (25981)
Change of medical student moral level after 1 year of clinical learning with patients.

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Background: Moral development is important for medical students to become a good doctor. Ethic education integrates into the medical curriculum. From many studies, clinical training on ward may inhibit medical students’ ethical and moral development. This study assessed moral level in medical students after 1 year of their education and the ways that medical students improve their moral levels.

Summary of Work: 4th year medical students were enrolled in the study during ethics session. The students evaluated their own moral level by using multiple vote technique on Lawrence Kohlberg moral development, and then they learned 7 ethical topics in 3 hours ethics class. We invited the same individuals to re-evaluate their own moral level again by the same techniques one year later. Towards the end of the class, those 5th year medical students find the ways that improve their moral levels.

Summary of Results: The stage of moral level increase from mean 3.89 in 4th years to 4.75 in 5th years (p < 0.0001) and students suggested the ways to increase moral level is doing with a willing mind (30%), put themselves in patient’s shoes (21%) and role modeling (21%).

Discussion and Conclusions: At one year after clinical training on ward, moral of medical students tends to increase which differs from other studies. Three important ways that students used to develop an ethical level are doing with a willing mind, put themselves in patient’s shoes and role modeling.

Take-home messages: Medical ethics in clinical year can be improve several ways by clinical faculty.
#7EE03 (27387)
Is Japanese medical students’ empathetic communication sufficient to gain satisfaction of standardized patient (SP)?

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**Background:** Physicians’ emphatic communication raise patients’ satisfaction. This study examined the effect of medical students’ emphatic communication to SPs’ satisfaction.

**Summary of Work:** Thirty-six fifth-year medical students participated medical interview training. This training required student to perform history taking, physical examination and differential diagnosis to SPs. Thirty-six videotapes of consultations were analyzed by using The Roter Interaction Analysis System (RIAS) and classified 41 RIAS codes into 9 category groups based on their functional meanings. For example, utterances of empathy were included in the group of utterances for expressing emotions. SPs rated two satisfaction questionnaires. Correlations between medical students’ communication style and SPs’ satisfaction were analyzed.

**Summary of Results:** The average numbers of utterance were 163.00±26.21 in medical students, and 114.54±23.92 in SPs. Two category-groups, utterances for building good atmosphere and building partnership occupied 51% of medical students’ utterances. The dominant RIAS code in the first category group showed medical students’ agreement with SPs and latter showed checking their own understandings. However, utterance for expressing emotions was only 3% of students’ utterances and there were no correlations among category-groups and SPs’ satisfaction scores.

**Discussion and Conclusions:** Medical students exchanging many of agreement and checks of understandings focused on building relationships with SPs, which might assume educational effect. Considering about few utterances of empathy, students experienced this training including differential diagnosis for the first time and might hasten to think diagnosis. Thus they could not show both building relationship and showing empathy.

**Take-home messages:** More trainings including differential diagnosis may facilitate students to get used to perform both building relationship and showing empathy simultaneously.

#7EE04 (27349)
A study on the association between mindfulness, empathy and patient-centredness in Italian medical students

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**Background:** Recent research has shown that there is a change of medical students’ empathy and caring attitude during internship experience and that mindfulness – the quality of being fully present and attentive in the moment – facilitates a variety of well-being outcomes for healthcare professionals.

**Summary of Work:** This study was designed to compare the profile of a sample of Italian students with literature data on empathy and patient-orientation attitude; to examine changes in empathy from second to fifth year (internship in Italy begins in the third year) and to assess whether mindfulness was associated with empathy and patient-centeredness.

400 medical students of Milano-Bicocca University (2010-2014) completed the Jefferson Scale of Physician Empathy (Hoijat et al. 2002) and Patient Practitioner Orientation Scale (Krupat et al. 2000) in the second and in the fifth year. A subsample (270 subjects) filled in also the Five Facet Mindfulness Questionnaire (FFMQ) a common measure for mindfulness.

**Summary of Results:** JSPE and PPOS Italian students scores seems a bit higher than data collected in the anglo-saxon areas; there is no the expected decrease in empathy and patient centeredness during internship experience; mindfulness is positively associated with empathy and patient centeredness scores.

**Discussion and Conclusions:** Internship experience in the hospital wards seems to have a very low negative impact on empathy and attitudes towards patients, probably due to some aspects of the curriculum structure (e.g. early experience with General Practitioners).

**Take-home messages:** Mindfulness for the medical student includes an understanding of patients as not merely objects of care and an awareness of the patients’ (and their own) emotions.
Empathy predicts learning outcomes of clerkship training programs for undergraduate medical students

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Background: We investigated whether medical students' scores on the Jefferson Scale of Physician Empathy (JSPE) predict learning outcomes of clerkship training.

Summary of Work: Participants were 54 fifth-year medical students who were about to receive a core clerkship of 3-month internal medicine, 3-month surgery, and 3-month obstetrics-gynecology-pediatrics-radiology at a 3000-bed medical center. Among these, 18 students received the 3-month internal medicine and 3-month surgery clerkship at another 200-bed cancer center. Two groups of students were matched by a propensity score modeling. All students received the same Objective Structured Clinical Examination (OSCE) and a validated humanism questionnaire adjudicated by standardized patients (SP) as measures of learning outcomes at the end of each 3-month rotation. Besides, at baseline and end of the 9-month clerkship training, all students completed the JSPE, which comprises three domains: perspective taking, compassionate care, and standing in one's shoes.

Summary of Results: On average, the JSPE scores declined slightly on the domains of perspective taking and compassionate care but improved on standing in one's shoes. In the multivariate model accounting for training hospitals, an increase in the perspective taking score independently predicted a high overall OSCE score and a high SP-adjudicated humanism score (p=0.0092 and 0.0094, respectively). An increase in the compassionate care score also independently predicted a high overall OSCE score (p=0.0472).

Discussion and Conclusions: A change in empathy during clerkship may predict OSCE and humanism scores at the end of the clerkship training.

Take-home messages: Empathy has a positive role in clerkship training outcomes.

Pain and its interpretation: A qualitative research on increasing the sensitivity to Pain in humanistic curriculum for undergraduate medical students

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Background: Pain and its interpretation has been a major concern of medicine, religion and philosophy. It is something that a person is experiencing or something that is happening to someone. Although the gap between the primary sensation toward pain and the secondary perception by another, namely its interpretation, cannot be overcome, it can still be bridged by empathy. Hence to increase the sensitivity to pain is highly emphasized in medical education. This research has its theoretical base of experiential pedagogy. The objective of this research was to observe how undergraduate medical students construct their own way to perceive and define pain of the other in this humanistic curriculum.

Summary of Work: A qualitative research study was conducted with hermeneutic phenomenological approach to explore the process of transformation of students’ perceptions and attitude toward pain of another. At the first phase the personal experience and understanding of pain are discussed in small groups. The anthropological research method is introduced, so that the participated students can make field observation and in-depth interviews with selected patients. Research data consist of the descriptions about encountering the core patients in details, the life stories of them, and the personal feedback of the students. Finally the data are analyzed by hermeneutic phenomenological research method.

Summary of Results: The participated student indicated significantly the diversification of perception and defining pain. This qualitative research data reveals explicitly they survey the empathetic emotional resonance not as a full-on experience of the other’s pain, but rather a “participation in the emotional content of another’s pain”.

Discussion and Conclusions: Empathy is to be experienced when one participates the life story of the others. The sensitivity toward pain is increased when encountering patients in pain profoundly. It improves medical students to extend their humanistic vision.

Take-home messages: How can the longitudinal humanistic Curriculum designed in medical education?
Comparison of Two Measures of Undergraduate Medical Student Empathy

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Background: Studies investigating the trajectory of medical student empathy have produced conflicting results. The extent to which differing results are in part due to differences in the measures used is unclear.

Summary of Work: Analysis of responses of 620 students completing both Jefferson Scale of Physician Empathy (JSPE-S) and the Perspective Taking (IRI-PT) and Empathetic Concern (IRI-EC) subscales of Davis Interpersonal Reactivity Index as part of a longitudinal study at Cambridge University. Separate comparisons were made of measures of cognitive empathy IRI-PT and perspective taking JSPE S items and measures of affective empathy IRI-EC and compassionate care JSPE-S items

Summary of Results: Reliability - Cronbach’s alpha IRI-PT: 0.81, IRI-EC: 0.77, JSPE items perspective taking: 0.74, compassionate care: 0.59. Correlation within sub scale scores ranged from - IRI-PT 0.25 to 0.53; JSPE perspective taking 0.05 to 0.46; IRI-EC 0.06 to 0.44; JSPE compassionate care 0.06 to 0.40

Discussion and Conclusions: Poor level of correlation between measures both as scales and in terms of individual items suggests they may be measuring different concepts - IRI a view of self, JSPE an aspirational view of how doctors should behave.

Take-home messages: Both scales may be valid and reliable but a better understanding of what each is measuring may facilitate better understanding of medical students’ empathy.

Physician’s empathy and patient-centeredness among male and female clerks in a medical center in Taiwan

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Background: Empathy and patient-centeredness are essential part of a meaningful patient-physician relationship. The purpose of this study was to assess the change of physician’s empathy and patient-centeredness between genders during the clerkship year.

Summary of Work: The study was conducted before and after one-year rotational-based clerkship in 2013-14. Ninety-nine M5 students in a medical center in Taipei City participated in this study. Students’ empathy was measured using Jefferson Scale of Physician Empathy - Student Version (JSPE-S). Higher scores on JSPE-S indicate more empathy. Students’ patient-centered beliefs were measured using Patient-Practitioner Orientation Scale (PPOS). Higher scores on PPOS indicate a belief that the student is patient-centered.

Summary of Results: At the baseline, there was no difference between male and female students on JSPE-S and PPOS scores (total, share, and care dimension). The JSPE-S score reduced after clerkship in male students (p=0.014), but not changed in female students. The PPOS scores (total, share, care) after clerkship were lower in female students (p=0.001, p<0.001, p=0.017). But there was no significant difference between pre- and post-test within both gender groups.

Discussion and Conclusions: In this study, changes of students’ attitudes toward empathy and patient-centeredness during clerkship were different between genders.

Take-home messages: 1. The empathy declined in male students after clerkship, but not in female students.
2. The female students’ patient-centeredness beliefs were lower than male students after clerkship.
Is empathy affected by medical students’ somnolence?

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Background: Empathy may be viewed as a mutable/situational state, in which affective and cognitive responses are sensitive to circumstances, such as educational experiences, mental, psychological and physical state. We hypothesized that students in more advanced years of medical training and without somnolence would have higher empathy scores.

Summary of Work: Cross-sectional multi-centric study with the use of validated self-report questionnaires of empathy (the Interpersonal Reactivity Index – IRI) and daytime sleepiness (Epworth Sleepiness Scale - ESS) among a random sample of medical students. Questionnaires were available to students on an electronic platform designed for the study – the VERAS platform.

Summary of Results: From the total of 1,650 randomized students, 1,350 (81.8%) completed all questionnaires. Students from different phases of medical training had minor differences on empathic dispositions (p<0.05; f<0.25). Most of students (n=759; 56.2%) had excessive daytime sleepiness (ESS scores ≥ 10). Empathy scores were weakly correlated with ESS scores (r=0.1; p=0.05).

Discussion and Conclusions: Although most studies on medical students’ empathy have indicated a decline of emotional and cognitive empathic skills throughout medical school, the extent to which empathy scores can be translated into its behavioural expression remains uncertain. Even though somnolence may affect one’s cognitive skills, it does not seem to interfere with students’ empathic dispositions. Conclusions: Educational experiences did not seem to affect (either positively or negatively) the development of students’ empathic skills. Our hypothesis that somnolent students would have difficulties in engaging the other’s perspective was not confirmed.

Take-home messages: The understanding of the behavioural expression of empathy and its correlates still needs further investigation in medical education.

Do it again! Medical students achieve higher empathy levels when exposed to a simulation training with standardized patients more than once

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Background: As an essential part of professionalism, empathy is associated with positive outcomes for both patient and physician. Recent studies have shown that medical students lose empathy during undergraduate education, and some interventions may mitigate this process. However, we have a poor understanding about what happens next.

Summary of Work: Authors followed the empathy levels of 77 fourth-year medical students from a Brazilian university using the Jefferson Scale of Physician Empathy (JSPE) over two years. A simulated medical consultations activity with standardized patients and an in-depth debriefing was offered at fourth-year, with volunteer participation of 54 students. All 77 students participated in a similar activity at sixth-year, including those 23 students who had not attended the first intervention.

Summary of Results: After simulation, students had a significant increase in the mean JSPE score (from 114.2 to 122.3), while students who did not participate maintained their scores (from 114.5 to 113.7). There was a loss of empathy until the beginning of the sixth-year, when the first group returned to their initial score (114.5) and the second group had a significant decrease in their empathy level (111.0). Both groups had significant increases in their JSPE mean scores after participating in the sixth-year simulation activity, the first group reaching a JSPE score of 120.4 and the second a score of 116.6, significantly lower.

Discussion and Conclusions: Simulation activities may increase medical students’ empathy levels, especially if performed more than once during the undergraduate course.

Take-home messages: Medical students’ empathy level seems to be amenable to educational interventions, and continuous training may be the best plan.
**Empathy in Medical Students: A Three Year Prospective Cohort Study at Universidad Andrés Bello, Viña del Mar, Chile**

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**Background:** Empathy is one of the main characteristics that medical doctors should develop.

**Summary of Work:** Objective: compare empathy scores for medical students during a three year follow up. A cohort study with 33 students (18 men and 14 women) was performed. The Jefferson Empathy Scale, was used to obtain baseline data, at the beginning of the third year, and for follow up at the end of the third, fourth and fifth year. Statistic analysis: Friedman, t Student and Mann-Whitney tests. Informed consent was obtained.

**Summary of Results:** No significant differences were observed across years and gender for global empathy, perspective taking, compassionate care and standing in the patient’s shoes. Nevertheless, perspective taking in females, showed a statistically significant increase between baseline and the end of the third year (p < 0,05).

**Discussion and Conclusions:** No decrease in empathy for any of the years studied was observed, as previous studies have shown. Possible explanatios could be the homogeneous characteristics of the sample, and the facts that allowed for personalized tutoring. No significant changes was revealed in global empathy, as well as in the perspective taking, compassionate care and standing in the patient’s shoes was observed. No significant differences by gender were shown in any of the components.

**Take-home messages:** This cohort study should continue to keep observing the trends on empathetic behavior. A qualitative study should complement the data to provide better understanding.

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**When I say sometimes, I mean...: What do residents mean when they talk about duty hours**

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**Background:** The ACGME resident’s survey which is administered in the form of Likert scale, is used to make important decisions related to accreditation. Some studies have found issues with validity and reliability of Likert scale survey; however none has been done with the resident’s survey. Therefore, the purpose of this research is to understand the validity and reliability of resident’s survey in the hope that the findings could be used to inform stakeholders on the limit of the Likert scale.

**Summary of Work:** A survey was sent to residents enrolled at two sponsoring institutions in Singapore. Residents were required to indicate the frequency of the Likert options.

**Summary of Results:** A sample of 119 residents was used in the analysis. Standard deviations were greater for duty hours than the other domains. Repeated-measure ANOVA found that ‘very often’, (F(3,472)=4.14,p<.05) and ‘extremely often’ responses (F(3,472)=5.51,p<.05) were lower in the duty hour domain.

**Discussion and Conclusions:** The reliability of the resident’s survey could be affected by the lower frequency and wide variation in the duty hour domain. Likert scale might not be the best mean to obtain input on frequency as Schwarz (1999) explained that responses like ‘sometimes’ and ‘very often’ would mean different frequencies in different contexts. Similarly, Schaeffer (1991) explained that wide variation can arise when respondents differ in their frequency judgment of an event and are asked to map it onto a Likert scale. Residents might differ sharply in their frequency assessment of an event due to differing context and it might be better to employ a frequency slider scale.

**Take-home messages:** To enhance reliability of the resident’s survey, it will be advisable to adopt frequency slider scale instead.
The influence of survey medium: experience from a national undergraduate medical conference

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Background: The use of questionnaires to ascertain the value of a workshop or conference is a common survey method employed by medical societies. The ubiquity of online surveying software, and relative ease of data collection, has led to the increasing use of electronic surveys over paper forms. We sought to establish whether the two media produced equivalent results.

Summary of Work: Seventy-five medical students attended a national undergraduate conference. Each was randomly allocated to receive an electronic (via e-mail) or paper feedback survey. The questionnaire comprised five statements, with a five point Likert-type scale used to indicate level of agreement. Chi-square tests were used to compare the proportion of questionnaires completed and the equivalence of overall responses in paper vs electronic feedback.

Summary of Results: Thirty-five students received the electronic survey, and forty the paper questionnaire. There was no difference in response rates (electronic vs paper: 48.6% vs 40%, p=0.45). Responses to electronic surveying were not equivalent to those generated from paper questionnaires (p<0.001). Students were more likely to strongly agree with statements if responding electronically (29.4% vs 15%).

Discussion and Conclusions: The disparate responses received between the two media may reflect a high rate of acquiescence bias in electronic surveying. However, given the modest response rates, this may also reflect distinct groups choosing to respond to different media. Responses from electronic survey media are easier to analyse, but give contrasting results compared to paper feedback forms.

Take-home messages: Electronic and paper feedback surveying may not produce equivalent responses.