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# Views on Bioethics Statements among Medical Students from Three Different Saudi Universities

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### **Abstract**

#### Objective

To investigate the level of agreement with ethics statements amongst medical students from different Saudi Universities that use traditional or problem based learning (PBL) methods.

#### Methods

The respondents enrolled were medical students from Saud Bin Abdulaziz University for Health Sciences (KSAU-HS) which utilizes PBL methods, King Saud University in Riyadh (KSU), and King Abdulaziz University in Jeddah (KAU), both of which utilize traditional methods. As all KSAU-HS medical students are applied medical science graduates, a fourth group consisting of applied medical science graduates from KSU and KAU were included as controls.

The respondents were asked to grade their degree of agreement with 19 statements on different bioethical issues by using a Likert type scale from 1 to 5 (1= I completely disagree, 5= I completely agree). The 19 statements were further divided into 5 summative ethical domains: –(a) goals of medicine (3 questions), (b) autonomy and informed consent (9 questions), (c) quality of life (1 question), (d) resource allocation (4 questions), and (e) withdrawal and withholding of treatment (2 questions).

To avoid gender bias, only male students were sampled as KSAU-HS has only male students. Overall mean scores and mean scores for each statement and for each domain by each university were compared using unpaired two-tailed t test and Wilcoxon rank sum test.

#### Results

There were 43 students from KSAU-HS, 36 from KSU, 47 from KAU and 43 applied medical science graduates.

There were significant differences between the overall mean scores by KSAU-HS on one hand (4.03 +/-0.69) and those by the other three groups on the other, being 3.75 +/- 0.66 (p=0.001) for KSU students, 3.76 +/- 0.7 (p=0.015) for KAU students and 3.63 +/- 0.51 (p=0.0001) for the applied medical science graduates.

The main differences between KSAU-HS students and the students from KSU and KAU were seen in the areas of objectives of medical care (p=0.05), autonomy (p=0.0001), patient centeredness (p=0.02), and informed consent (p=0.05). These differences could not be explained by the older age of KSAU-HS students or their being postgraduates as revealed by the different results seen with the applied medical science graduates.

#### Conclusion

The most paternalistic attitudes were held by the applied medical science graduates followed by KSU and KAU students. The least paternalistic were the students of KSAU-HS. We speculate that these differences are related to the different bioethics teaching and training methods used in the 3 universities.

**KEYWORDS:** Bioethics, Medical Students, Saudi Arabia

## **Views on Bioethics Statements among Medical Students from Three Different Saudi Universities**

### Introduction

Bioethics teaching has become an important component of most medical schools curricula in modern medicine (Hope, 1998). Many medical education bodies supervising and monitoring curricula have determined that bioethics teaching should be a fundamental element for proper patient care (General Medical Council, 2003). Bioethics teaching in many medical schools is based on didactic teaching complemented by observing the practicing physicians within a frame work influenced by environmental, religious and cultural factors.

Research has so far produced conflicting reports regarding the impact of teaching ethics on the behavior of medical students and whether such teaching produces more ethical students (Goldie, Schwartz, McConnachie, & Morrison, 2002; Codringley, Hyde, Peters, Vernon, & Bundy, 2006). There is some evidence from medical schools in the United States, Canada and United Kingdom which suggests that medical students become morally less sensitive as the course progresses (Branch, 2000; Patenaude, & Fafard, 2003; Patenaude, Niyonsenga, & Fafard; Matick & Bligh, 2006). Explanations put forward for this phenomenon include poor mentorship, negative peer pressure (Skiles, 2005) and hidden curricula (Codringley et al., 2007).

On reviewing the medical literature, the authors found little that compares the ethical knowledge and views among medical students trained by traditional methods versus Problem Based Learning (PBL) method. This study is designed to investigate the ethical views of Saudi medical students from three separate universities utilizing either the traditional methods or PBL teaching methods. The researchers assess their level of agreement on 19 ethical scenarios in 5 ethical domains.

### Methods

The respondents were asked to grade their agreement level with 19 statements on different bioethical issues by using a Likert type of scale from 1 to 5 (1= I completely disagree, 5= I completely agree).

To avoid gender bias, only male students were sampled from all 3 universities because KSAU-HS only has male students. Also, only clinical students were included in the study.

As all KSAU-HS medical students are applied medical science graduates, a fourth group consisting of applied medical science graduates from KSU and KAU were included as controls.

The 19 bioethics scenarios were adapted from the 'bioethics consensus statements', taken from the book by Judith Wilson Ross, *Health Care Ethics Committees—the Next Generation* (Ross, Glaser, Rasinski-Gregory, Gibson, Bayley, Scofield, 1993). For purposes of analysis, the 19 statements were further divided into 5 summative bioethics domains of which are: (a) goals of medicine (3 questions), (b) autonomy and informed consent (9 questions), (c) quality of life (1 question), (d) resource allocation (4 questions), and (e) withdrawal and withholding of treatment (2 questions).

The statistical analysis was done using SPSS version 17. Descriptive statistics were generated. Comparisons were calculated using Wilcoxon rank sign test, as well as, Pearson chi square. Means of response among the three universities were compared using independent student t test.

### Results

The total number of participants in the study was 169 medical students and applied medical science graduates, with 43 from King Saud bin Abdulaziz University for Health

Sciences (KSU-HS), 36 from King Saud University (KSU), 47 from King Abdulaziz University (KAU) and 46 from applied medical science graduates of KSU and KAU.

Table 1 shows the overall mean scores by university for all 19 statements tested. This shows that the highest level of agreement with the statements was seen with KSAU-HS students and lowest with applied medical science graduates. The scores by KAU and KSU students lie in-between ( $p < 0.01$ ).

Table 1: Overall mean Scores by Students from different Universities

	Mean	STD	p (Vs KSAU-HS)
Mean Score for KSAU students	4.03	0.69	
Mean score for KSU Students	3.75	0.66	0.001
Mean Score for KAU students	3.76	0.70	0.015
Mean Scores by applied medical science graduates	3.63	0.51	0.0001
<b>Mean Overall Score</b>	<b>3.79</b>	<b>0.61</b>	<b>0.001</b>

Analyzing agreement levels for each statement separately, the researchers found that KSAU-HS students had significantly higher scores than the other 3 groups in 13 out of the 19 statements. (Table 2)

Table2: Statements in which KSAU-HS students scores were significantly higher than the other 3 groups.

	KSAU-HS	KSU	KAU	Allied Med Science
The goals of medical care	4.76	4.50	4.53	3.88
Modern medicine cannot always be successful	4.35	4.09	4.06	3.91
The competent patient has the right to refuse any treatment	4.40	3.49	2.91	3.40
The physician should recommend the best treatment for the patient's best interest.	4.77	4.56	4.40	4.12
If a patient lacks competence, a family member may act as his surrogate.	4.67	4.44	4.38	3.88
If the patient's wishes are not they should be determined	3.70	3.33	3.53	3.47
QOL should be assessed form the patient's perspective	3.76	3.31	3.54	3.35
Parents have a right /duty to make treatment decisions for their children	4.52	4.17	4.23	4.33
Treatment recommendations should articulate the goals of treatment	4.88	4.67	4.80	4.08
Advance directives by the patient are not helpful	3.35	2.85	3.23	3.00
The rationing of health care should addressed at the policy level	4.29	4.25	4.20	3.90
Rationing decisions should be made by physicians for individual patients.	3.68	3.03	2.80	3.43
Surrogates' consideration of economic factors in making decisions for others is controversial.	3.66	3.47	3.50	3.65

The 19 statements were further divided into 5 summative domains of bioethics which are: (a) goals of medicine (3 questions), (b) autonomy and informed consent (9 questions), (c) quality of life (1 question), (d) resource allocation (4 questions), and (e) withdrawal and withholding of treatment (2 questions).

The mean scores in the 5 summative domains in the group as a whole are shown in table 3. The highest agreement level in the whole group was seen in 'goals of medicine' domain (4.33(0.73)) and the lowest was seen in 'withdrawal/withholding therapy' domain (2.93 ±0.92) (p=0.0001).

Table 3: Mean scores in the 5 summative domains of the whole group.

Domains	Mean	STD
Withdrawal/Withholding of Therapy	2.93	0.92
Justice, Equity and Resource Allocation	3.26	0.85
Autonomy and Informed Consent	3.49	0.49
Quality of Life	3.50	1.14
The Goals of Medicine	4.33	0.73

The mean scores in the 5 summative domains broken down by university are shown in table 4. It can be seen that in all but one domain. KSAU-HS students had the highest agreement level (with the exception of the 'withdrawal/withholding therapy' domain). The applied medical science graduates had the lowest. The results by KSU and KAU students were very similar in all the domains.

Table 4: Mean scores of the 5 summative domains broken down by university.

	Goals of Medicine	Autonomy & Informed Consent	Quality of Life	Justice Equity & Resource Allocation	Withholding & Withdrawing Treatment
KSAU-HS	4.59	3.66	3.76	3.32	2.9
KSU	4.42	3.44	3.31	3.24	3.2
KAU	4.43	3.5	3.54	3.25	3
Medical science graduates	3.86	3.35	3.35	3.22	2.7



No significant differences in ethical agreement levels were seen between senior and junior clinical students within each university. However, when comparing the scores by seniors (or juniors) at KSAU-HS with scores by seniors (or juniors) at KAU and KSU, the researchers found some significant difference in level of agreement in some of the statements tested (Tables 5 & 6).

Table 5: Comparing the scores by KSAU-HS and KAU+KSU senior students

	KSAU-HS (seniors)	KSU & KAU(seniors)	P
Complete autonomy of competent patient	4.65	4.35	0.0001
Wide goals of medical care	4.78	4.51	0.05
QOL to be assessed form the patient's perspective	3.92	3.24	0.02
Treatment recommendations should clearly articulate the goals of treatment.	4.96	4.74	0.05

Only significantly different scores are shown.

Table 6: Comparing the scores by KSAU-HS and KAU+KSU junior students\*

	KSAU-HS ( juniors)	KSU & KAU (juniors)	p
Complete autonomy of competent patient	4.08	2.88	0.006
Similar medical cases should be treated similarly.	2.17	2.91	0.05
Rationing decisions should be made by individual physicians for individual patients.	4.09	3.23	0.03
Surrogates' consideration of economic factors in making decisions for others is controversial.	4.17	3.30	0.02

\*Only significantly different scores are shown.

### Discussion

A number of reports have shown that medical students observe repeated unethical behaviors by senior doctors that include deception, improper consent taking and discriminatory behavior against subgroups of patients (Caldicott & Faber-Langendoen, 2005). Sadly, it has been shown those medical students' moral sensitivity drops as the course

progresses (Branch, 2000; Patenaude, Niyonsenga et al., 2003; Matick & Bligh, 2006). This has been attributed to hidden curricula (Codingley et al., 2007).

There is great controversy about whether ethics teaching impacts ethical behaviour positively or not (Curlin, Lawrence, & Fredrickson, 2009). Nevertheless there is a general consensus among educational experts and curriculum designers that ethics teaching should be an important part of the curriculum (Crandall, Reboussin, Michielutte, Anthony, & Naughton, 2007). In this study the caring attitude towards indigent patients deteriorated during the years of medical training. This has been attributed to the drop in the moral sensitivity drops mentioned above.

The researchers compared ethical statements agreement levels among medical students trained using Problem Based Learning method (KSAU-HS) and by traditional methods (KSU and KAU). A control group consisting of allied medical science graduates, who are not doing a postgraduate degree in Medicine, was included. This is because medical students at KSAU-HS join the medical school after graduation from an applied medical science college. This is not the case with KSU and KAU students who are secondary school graduates.

The students of KSAU-HS had a higher degree of agreement with the statements tested (4.03 std 0.69) than KSU and KAU students who had similar mean scores to each other (3.75 std 0.66 and 3.76 std 0.7 respectively,  $p < 0.01$ ). Indeed the difference was significant in 13 out of the 19 statements. This difference could not be explained by KSAU-HS students being older or being applied medical science graduates since the control group consisting of applied medical science graduates had the lowest agreement scores (3.63 std 0.51). Instead, it is more likely to be related to the different strategies of education used by the different universities, particularly in relation to ethics teaching and the personal and professional development approach in the curricula utilized.

A study using the same 19 statements among hospital ethics committees in Croatia revealed that the mean score was 3.86 std 0.25. The authors of that study concluded that the Croatian doctors adopted a generally paternalistic view. In that regard, the Croatian participants' responses were more similar to KSU and KAU students in this study than the KSU and KAU students' responses were to KSAU-HS students' responses (Borovecki, ten Have, & Oreskovic, 2006).

Overall, the domain with the highest degree of agreement among all the students groups was 'the goals of medicine'. This is perhaps to be expected since, through their daily contact with patients and doctors, the students from the different universities can equally observe and experience the goals of medicine. On the other hand, the domain of 'justice, equity and resource allocation,' which would be expected to require more cognitive reasoning than mere observation in the ward rounds, was associated with the lowest degree of agreement. Such cognitive reasoning would be expected to be more developed and advanced among the students at KSAU-HS who get ethics teaching based on Problem Based Learning strategy –including cases about ethical care, as well as the extensive personal and professional development approach that prevails at that university but not the other two.

The higher scores by KSAU-HS over KSU and KAU students were observed at both junior and senior levels. Thus, the difference seen between KSAU-HS students and the KSU and KAU students is observed at the early stages of their medical training.

In this connection it should be noted that the ethics courses at KSU and KAU are limited largely to didactic teaching consisting of a few hours annually. The medical teaching in these two universities follows a traditional method. On the other hand, the learning at KSAU-HS is problem based from the first day. The ethics teaching is extensive and uses interactive sessions, as well as, being problem oriented. Additionally, personal and

professional development forms an important core learning strategy that starts in the first year and continues until graduation.

Another possibly relevant difference in the training methods between the 3 universities, and which might have some bearing on the results, could be the use of simulators as a teaching method in KSAU-HS, but not in the other two universities. A recent study has concluded that using simulators wherever possible sends a clear message to students that patients are not to be used as commodities for training (Ziv, Wolpe, Small, & Glick, 2006). This, it is felt, enhances ethical sensitivity among students particularly in the area of autonomy and informed consent. This might explain why the researchers also found that the KSAU-HS students had the highest score in the summative domain of 'autonomy and informed consent'.

Previous reports have indicated that group and reflective discussion enhance ethical consideration particularly in matters related to patient autonomy and informed consent (Sheu, Huang, Tang, & Huang, 2006). However, whether this approach leads to actual change in behavior remains to be seen.

The teamwork approach using a problem-based learning strategy and linking evidence-based medicine and ethics has also been shown to achieve learning objectives in applied ethics (Rhodes, Ashcroft, Atun, Freeman, & Jamrozik, 2006).

It has been repeatedly reported that medical students' moral sensitivity drops as the course progresses (Branch, 2000; Patenaude, Niyonsenga et al., 2003; Matick & Bligh, 2006). This has been attributed to hidden curricula (Codingley et al., 2007) through the witnessing of repeated unethical behaviors by senior doctors that include deception, improper consent taking, and discriminatory behavior against subgroups of patients (Caldicott & Faber-Langendoen, 2005). One dimension of this drop in moral insensitivity was shown in the deterioration in caring attitude for indigent patients as the medical training progresses

(Crandall et al., 2007). In a previous study comparing students for their caring attitudes towards indigent patients, no difference was noted between students trained by traditional methods and those by PBL strategy. In both groups caring attitude dropped as the course progressed (Crandall et al., 2007).

Please note that the opinions expressed by the author represent those of the author and do not reflect the opinions of the Online Journal of Health Ethics' editorial staff, editors or reviewers.

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