

The promotion of medical students' moral development: a comparison between a traditional course on bioethics and a course complemented with the Konstanz method of dilemma discussion

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Abstract There is evidence that medical students do not develop their moral competence as expected for university students and that medical training, via formal and hidden curricula, somehow contributes to the scenario known as dehumanization of medicine. Education in Bioethics may be an interesting strategy to change this scenario. We investigated the impact of a course in Bioethics and a method of dilemma discussion (the Konstanz Method of Dilemma Discussion, or KMDD) on medical students' moral competence. We conducted an observational controlled study at a public Brazilian medical school. The extended version of the Moral Competence Test (MCT-xt) was applied at first and last days of a course on Bioethics in two consecutive years. These two courses were perfectly similar, except that with the second group two discussions according to the KMDD complemented the course. 165 undergraduate students participated in this research. Competence score (c score) slightly decreased in

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the group who took the traditional course while it slightly increased in the group who had the course complemented by KMDD's discussions. Though these differences were not statistically significant (chi-square test, $p < 0.05$), absolute effect size (aES) measurement suggests that KMDD's discussions had a small but positive effect on students' moral competence. If, as suggested by empirical evidence, medical education stagnates students' moral competence, then medicine is severely ill. Treatment may be found in a set of bioethical educative interventions, aimed at cognitive and affective aspects of moral competence.

Keywords Education · Medical · Undergraduate · Bioethics · Moral development

Introduction

Nowadays, there is a widespread feeling that most physicians are exclusively concerned with the technical side of their profession, leaving behind its relational component. In different parts of the world, patients and their families seem frustrated with doctors' capacity to fulfill their expectations regarding communication, willingness, and permanent care (Coulehan and Williams 2003)

This scenario, also known as dehumanization of medicine, has been associated with different causes – as the way job market in health care is organized and the relative decline of humanistic values (such as generosity, tolerance and comprehension) in contemporary western societies. However, among the authors who study this issue, there is a conviction that medical training, at undergraduate and graduate levels, somehow contributes to this situation. The classical description is that students enter medical school with an idealistic and generous attitude but, as the years go by, they become hardened self-centered individuals.

Moral psychology attempts to explain this impression. According to the cognitive-structural trend – by far the most empirically corroborated trend in moral psychology – moral development is associated with cognitive development in an invariable and irreversible sequence of stages. Individual moral reasoning development begins with a completely egocentric approach, passes through the recognition of different social actors' perspectives (initially from close people and later from the society as a whole), to reach its peak with the employment of abstract principles on which fair societies could be founded. Once individuals reach a higher stage, they are not supposed to employ lower stage moral reasoning to face moral problems. It is noteworthy that cognitive-structural authors (from their original thinkers – namely, J. Piaget and L. Kohlberg – to contemporary scholars) do understand that, besides cognition, there is an affective aspect in moral behavior. These authors, notwithstanding, believe that affection is a kind of “invariable variable”, and thus put their scientific focus on the cognitive processes that are involved in moral decisions and actions.

Still according to the cognitive-structural theory of moral development, it is expected that the more the years of formal education the individual takes, the higher the stages of moral reasoning he or she will employ when facing ethical and moral problems. University students, therefore, are supposed to further develop their moral reasoning during their learning years. Despite this, several studies have detected students' moral

reasoning stagnation during medical training (Self et al. 1993; Self and Baldwin Jr 1994; Fleisher et al. 2003; Patenaude et al. 2003).

The picture seems even more intriguing and troubling when moral competence is evaluated. Kohlberg defined this competence as “the capacity to make decisions and judgments which are moral (i.e., based on internal principles) and to act in accordance with such judgments” (Kohlberg 1964, p.425). As any competence, it may be developed, but contrary to moral preferences and orientations, it does regress if not properly stimulated (Bataglia et al. 2010). The Moral Competence Test (MCT), formerly known as Moral Judgement Test (MJT), is an evaluative instrument designed to measure this competence. When applied to medical students in at least two moments of their professional education, MCT detected a moral competence regression in different countries such as Germany (Lind 2000), Czech Republic (Slovackova and Slovacek 2007), Australia (Hegazi and Wilson 2013), Portugal (Neves Feitosa et al. 2013) and Brazil (Neves Feitosa et al. 2013).

Explanations for this phenomenon could be found in both, the formal and the hidden *curricula*. At the beginning of the last century, basic sciences and hospital practical training became the core of formal medical *curriculum* in different parts of the world (Hiatt and Stockton 2003). As a consequence, humanistic education – the education of a moral person, which goes beyond professional training, and is founded on history, philosophy, and literature – lost most of its space.

However, in medical schools, students need to learn not only theoretical knowledge and practical abilities but also how to behave as a doctor. This latter aspect is mainly transmitted via the hidden *curriculum*: the set of attitudes, values and behaviors, which are implicitly taught through social interactions, rituals and practices in a school's configuration. A central component of this context is the identification of models in professors, residents and more experienced colleagues. But, as the criticism related to physicians' humanistic performance seems to point out, these professional examples may often lead students astray in their relationship with patients and relatives.

In spite of the fact that cultural and economic forces do contribute to the process described above – and therefore might be explored elsewhere in order to better understand the so called dehumanization of medicine –, we will focus this study on pedagogical issues. Because we believe that education in Bioethics may be considered as a way to face medical students' moral development stagnation/regression, we decided to investigate the impact of a course in Bioethics and a method of dilemma discussion (the Konstanz Method of Dilemma Discussion, or KMDD) on medical students' moral competence.

The Konstanz method of dilemma discussion (KMDD)

The KMDD was created by German experimental psychologist Georg Lind more than 20 years ago. It is a special method for case discussion, founded on the cognitive-structural trend of moral psychology and on German philosopher J. Habermas' Discourse Ethics. Briefly, in a typical KMDD activity, a semi-real case is presented and participants are asked to position themselves either in accordance or against the case's protagonist decision. Then, following a specific dynamics of discussion, participants will present and confront arguments and, by the end of the activity, they are asked to

choose, among the arguments contrary to one's own opinion, one or two arguments which he or she regards as the most impacting. In our case, the activity lasted around 90 min.

KMDD's main goal is the promotion of competencies related to morals and democracy. Taking into account moral behavior's affective and cognitive aspects, Lind (2008a) considers moral competence as a bridge between moral intentions and action. It capacitates one to recognize one's own moral feelings, submit these feelings to reflective reasoning and act in accordance with such judgment.

However, in contemporary pluralistic democratic societies, individual conscience and good will do not suffice to justify moral actions. In a world where views of good life are so diversified, kantian monologic perspective of the individual conscience is forced to expand itself to a dialogic intersubjectivity. In this context, a capacity to employ communicative reasoning in order to produce and comprehend arguments as a way to solve moral conflicts is indispensable (Lind 2008b).

Methods

"Bioethics" is a discipline offered at the beginning of the 3rd year in a Brazilian public medical school (which means that students initiate this course having completed around 33 % of their medical education since, in Brazil, it takes 6 years for a student to become a doctor). In nine meetings of four hours duration each, distributed over a 75 days period, a set of bioethical issues regarded necessary for medical practice is brought to discussion. Two professors were responsible for this course: both are medical doctors, PhD and specialized in Bioethics. A psychologist, PhD in the field of moral education and familiar with the KMDD, helped to lead the discussions according to the KMDD.

We applied the extended version of the Moral Competence Test (MCT-xt) at first and last days of this course on Bioethics in two consecutive years, thus evaluating two different groups of students. These two courses were perfectly similar (the same professors, exploring the same issues, in the same sequence), except that with the second group two discussions according to the Konstanz Method of Dilemma Discussion (KMDD) complemented the traditional course.

The MCT was designed based on Lawrence Kohlberg's cognitive-structural theory of moral development. In its standard version, the MCT presents two dilemmatic situations where the protagonist has already made a decision. For the purpose of this research, we employed MCT's extended version, which adds a third dilemmatic situation and, according to Bataglia et al. (2003), seems to be more appropriate to Latin American populations. Each story is followed by twelve arguments (six favoring the protagonist's decision and six against his decision; the arguments representing Kohlberg's six stages of moral development). Test respondents will mark their degree of concordance to each argument in a Likert scale.

Test respondents have to deal with a difficult moral task: they have to react to arguments against their own opinion, which means that they do not simply apply their moral orientation to the case but, rather, they have to cope with counter-arguments. Whenever a respondent is capable of recognizing good arguments (arguments based on Kohlberg's advanced stages) even though they are against his/her opinions, or bad arguments (arguments based on Kohlberg's initial stages) even though they go along

with his/her opinions, the subject will achieve a good score of moral competence (*c score*).

Due to its descriptive and exploratory nature, this study does not allow broad generalizations. Our main goal was to gain further knowledge about the course of Bioethics in order to improve it. However, we hope our results and conclusions might propitiate some helpful insights to professionals responsible for medical students' education, in order to counteract the process of dehumanization of medicine.

This study was approved by an Institutional Research Ethics Board. All participants read and signed an informed consent.

Results

Table 1 shows the results for pre and post testing in the group that participated in the traditional Bioethics' course. In table 2, we show the results for the group who participated in the course complemented with the Konstanz Method of Dilemma Discussion.

As we can see in tables 1 and 2, *c score* slightly decreased (-1.3) for the group of students who participated in the traditional course of Bioethics (Group 1), while for the group who participated in the course complemented with two discussions based on the KMDD (Group 2) there was a slight increase on the *c score* (+0.7). Both differences, though, were not significant from the statistical point of view.

If we exclude the third dilemma of the MCT-xt – thus applying the standard version of the MCT, which is the version used in different parts of the world but in Brazil and some Latin American countries – *c score* would slightly decrease in group 1 (-2.3) and in group 2 (-0.5).

Even though our results did not show statistical significant differences, a descriptive approach, based on the absolute effect size (aES) might offer an interesting interpretation. According to the American Psychological Association (Wilkinson 1999), aES' reports are consonant with solid scientific practice, being especially useful to evaluate and compare educational interventions (Conboy 2003).

Table 3 shows the aES considering both MCT and MCT-xt *c scores*.

Taking into account the aES, we may conclude that the group of students who took the traditional course had a slightly worse performance in the MCT than the group who took the course complemented by two discussions according to the KMDD. It means that students in this last group had a greater development (or a smaller regression) in their moral competence.

Table 1 *c scores* (Group 1)

Group 1: Traditional course on Bioethics				
Number of subjects: 96				
	Pre-test	Post-test	Absolute Difference	Statistical Significance $p < 0.05$ (Paired T-Test)
<i>c score</i>	19.0	17.7	-1.3	$p = 0.437$

Table 2 *c* scores (Group 2)

GROUP 2: Course on Bioethics complemented by the KMDD				
Number of subjects: 69				
	Pre-test	Post-test	Absolute Difference	Statistical Significance $p < 0.05$ (Paired <i>T</i> -Test)
<i>c</i> score	20.4	21.1	+0.7	$p = 0.619$

Discussion

Taking into account the international experience with the KMDD and the MCT, we had a small positive effect of the KMDD on our medical students' moral competence. One explanation for the magnitude of this effect is the facilitator's lack of experience in employing the KMDD. In our case, both facilitator and assistant were officially authorized to use the method. But, even though the assistant had a wide experience with the KMDD, the facilitator had only 1 year of experience with the method.

It is important to mention students' enthusiasm with the KMDD. During discussions, their participation was intense. Due to the method's particular dynamics, introspective students had the chance to express their views and took this chance in a surprisingly active way. By the ending of the course, when evaluating it, students declared that the discussions were the highlights of the course. They were willing to engage in KMDD in the future. Actually, later on, students invited us to lead a discussion according to the KMDD in a medical students' international congress they were organizing in Brazil.

Since the KMDD is founded on Habermas' Discourse Ethics and on Kohlberg's theory of moral judgment development, it has to face some criticisms related to those theories. In a few words, Habermas sees dialogical communication, when performed aimed at understanding and not at controlling, as a universal way to comprehend differences. Once discussions are leaded according to a specific procedure (equal opportunity of manifestation shall be granted to anyone who wants to participate; and participants should freely say what they really think and be willing to accept or reject conclusions based only on the rational strength of the best argument) they can engender at least provisory solutions for moral problems (Habermas 1998). One of the main criticisms towards Habermas' ideas is directed to the quasi-utopian conditions of discourse: it may be said that Discourse Ethics asks too much from the participants. We believe this criticism is quite fair. Nonetheless, we also believe that pedagogical

Table 3 Absolute Effect Size (aES). MCT (Moral Competence Test). MCT-xt (Moral Competence Test extended version). C2i: intervention group post-test *c* score. C1i: intervention group pre-test *c* score. C2c: control group post-test *c* score. C1c: control group pre-test *c* score

	Absolute Effect Size (aES) (C2i-C1i) - (C2c-C1c) = aES
MCT	$(24.1-24.6) - (20.3-22.6) = +1.8$
MCT-xt	$(21.1-20.4) - (17.7-19.0) = +2.0$

strategies as the KMDD can improve moral competence in a way that will allow participants to better fit such an idealistic procedure.

From the psychological standpoint, any educational tool based on Kohlberg's cognitive-structural theory will have to admit its weakness when it comes to moral motivation. The motivation to act morally is strongly associated with the system of values the individual builds for him or herself. And since values are an affective investment, it seems quite clear that any pedagogical intervention aimed at the cognitive domain shall be complemented by strategies aimed at the affective aspect of moral behavior.

At any rate, what our results definitely show is that, if our course on Bioethics intends to promote moral development – as Self et al. (1998) suggest is possible –, it should be modified. Purely expositive classes do not attract students' attention. Activities which stimulate students' participation, as the KMDD, are to be increasingly introduced in the course. Furthermore, we believe that pedagogical interventions aimed at the affective aspect of moral behavior should have some room in the course. We find especially interesting the use of cultural goods (plastic arts, literature, plays and movies) in a way that will make students reflect on the system of values they are building and how it will serve as a foundation for their personal and professional lives.

Conclusions

John Rawls raised a question that clearly enunciates the challenge, which is both ethical and political, contemporary western societies have to face: "How is it possible that there may exist over time a stable and just society of free and equal citizens profoundly divided by reasonable though incompatible religious, philosophical and moral doctrines?" (Rawls 2005, p.xviii). The complexity of the issue reaches its peak in developing countries, where the task of stabilizing a just society has to be preceded by the necessity of promoting freedom and equality among its citizens.

Brazilian democracy is in effervescence. By the middle of 2013, hundreds of thousands of people took to the streets of several cities, demonstrating, among other things, their frustration towards the way democratic representation is performed in the country and the quality of public services – health care being one of their main preoccupations. Political parties are despised and politicians abhorred. In such times, it is likely that some form of direct democratic participation will gain importance. If this proves to be the case, the promotion of competencies related to practical reasoning and moral action may improve citizens' skills to manage and understand the upcoming approaches of deliberative democracy. We believe that education for and by Bioethics might be helpful to foster citizenship, since it might improve competencies which would help to face not only bioethical problems, but also more general current ethical, moral and even political problems.

More than just an academic interdisciplinary field, we see Bioethics as a transcultural international movement whose main task is to proportionate ethical enlightenment and moral orientation for the management of ethical and moral problems in the sciences of life and human health care.

Because the fields of biology and health care are a typical example of contemporary world's complexity and because their issues are of widespread interest, we believe that

education in Bioethics can promote people's capacity to construct, expose and defend personal ideals of good life, as well as to listen, tolerate and – whenever it is possible – respect other people's ideals.

For all these reasons, we suggest that Bioethics should be led to an educational turn. If Bioethics does not aim at educational targets, it will lose most of its significance. It is troubling to see bioethicists involved in complicated discussions, diverging on points whose relevance is sometimes quite questionable and without noticing that, at the end, even if they settle down their divergences, nothing would be really solved: men and women, who needed to be educated, would remain clueless and powerless.

It is our understanding that this educational turn of Bioethics might have an initial direction, a target from which it could consolidate and disseminate: medicine. If, as suggested by a considerable set of empirical evidence, medical education promotes a regression or a stagnation in students' moral competence, then medicine is severely ill. Education for and by Bioethics may be a treatment. It may contribute not only to develop future physicians' personal and professional autonomy, but also to raise their awareness concerning physicians' social responsibility.

Finally, it is important to point out that, since medical schools are at least partially responsible for their students' moral stagnation, they have the obligation to mobilize their resources in order to answer social demands regarding the dehumanization of medicine. It is necessary to make clear to both, professors and students, the institutional commitment with students' moral development. In this sense, at least five fronts could be explored: 1) Permanent improvement of teaching and assisting conditions in order to progressively eliminate situations which can difficult moral behavior; 2) Improving the quality and increasing the space for formal interventions in Bioethics all over medical training; 3) Stimulating different clinical disciplines to open room for ethical discussions in their respective areas; 4) Fomenting scientific research on medical students' ethics education; and 5) Promoting doцент awareness and training in order professors could make a positive contribution – both as exemplars and as a comprehensive discussion facilitator – to students' moral and democratic competencies' development.

References

- Bataglia P, Quevedo T.L, Schillinger-Agati M, Lind G. 2003. Testing the segmentation hypothesis with an extended version of the MJT [abstract]. In: Poster presented at: Niemczynski A, editor. Moral education within a world of social, political and religious controversies. *29th Annual Conference Association for Moral Education*; 2003 Jul 16–20; Krakow, Krakow: Jagiellonian University 22–23.
- Bataglia, P.U., A. Morais, and R.M. Lepre. 2010. Kohlberg's theory about moral judgment development and the instruments used for evaluation of moral judgment and moral competence in Brazil. *Estudios de Psicología (Natal)* 15(1): 25–32.
- Conboy, J.E. 2003. Some typical univariate measures of the magnitude of effect. *Análise Psicológica* 21(2): 145–158.
- Coulehan, J., and P.C. Williams. 2003. Conflicting professional values in medical education. *Cambridge Quarterly of Healthcare Ethics* 12: 7–20.
- Fleisher, W.P., C. Kristjanson, G. Bourgeois-Law, and B. Magwood. 2003. Pilot study of the defining issues test. *Canadian Medical Association Journal* 169(11): 1145–1146.
- Habermas J. 1998. Communicative ethics. In: *The inclusion of the other: Studies in political theory [Internet]*, ed. Habermas J. Cambridge: MIT Press; 1998 [cited 2012 Mar 25]. Available from: <http://www.marxists.org/reference/archive/habermas/1998/communicative-ethics.htm>.

- Hegazi, I., and I. Wilson. 2013. Medical education and moral segmentation in medical students. *Medical Education* 47(10): 1022–1028.
- Hiatt, M.D., and C.G. Stockton. 2003. The impact of flexner report on the fate of Medical Schools in North America after 1909. *Journal of American Physicians and Surgeons* 8(2): 37–40.
- Kohlberg, L. 1964. Development of moral character and moral ideology. In *Review of child development research*, ed. M.L. Hoffman and L.W. Hoffman, 381–431. New York: Russel Sage Foundation.
- Lind, G. 2000. Moral regression in medical students and their learning environment. *Revista Brasileira de Educação Medica* 24(3): 24–33.
- Lind, G. 2008a. The meaning and measurement of moral judgment competence: a dual aspect model. In *Contemporary philosophical and psychological perspectives on moral development and education*, ed. D. Fasko Jr. and W. Willis, 185–220. Creskill: Hampton Press.
- Lind, G. 2008b. Teaching students to speak up and listen to others: fostering moral-democratic competencies. In *Doing Democracy: striving for political literacy and social justice*, ed. D.E. Lund and P.R. Carr, 319–336. New York: Peter Lang Publishing.
- Neves Feitosa, H., S. Rego, P. Unger Raphael Bataglia, K.F. Castelo Branco Sancho, G. Rego, and R. Nunes. 2013. Moral judgment competence of medical students: A transcultural study. *Advances in Health Sciences Education: Theory and Practice* 18(5): 1067–1085.
- Patenaude, J., T. Niyonsenga, and D. Fafard. 2003. Changes in students' moral development during medical school: A cohort study. *Canadian Medical Association Journal* 168(7): 840–844.
- Rawls, J. 2005. *Political liberalism*. New York: Columbia University Press.
- Self, D.J., and D.W. Baldwin Jr. 1994. Moral reasoning in medicine. In *Moral development in the professions*, ed. J.R. Rest and D. Narváez, 147–162. Hillsdale: Lawrence Erlbaum Associates Inc.
- Self, D.J., D.E. Schrader, D.C. Baldwin Jr., and F.D. Wolinsky. 1993. The moral development of medical students: A pilot study of the possible influence of medical education. *Medical Education* 27(1): 26–34.
- Self, D.J., M. Olivarez, and D.C. Baldwin Jr. 1998. Clarifying the relationship of medical education and moral development. *Academic Medicine* 73(5): 517–522.
- Slovackova, B., and L. Slovacek. 2007. Moral judgement competence and moral attitudes of medical students. *Nursing Ethics* 14(3): 320–328.
- Wilkinson, L., and Task Force on Statistical Inference. 1999. Statistical methods in psychology journals: Guidelines and explanations. *American Psychologist* 54(8): 594–604.