Social Science & Medicine 78 (2013) 125–129

Contents lists available at SciVerse ScienceDirect

Social Science & Medicine

journal homepage: www.elsevier.com/locate/socscimed

Short report

The ongoing westernization of East Asian biomedical ethics in Taiwan

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ARTICLE INFO

Article history:
Available online 12 December 2012

Keywords:
Taiwan
Confucianism
Autonomy
Ethics
Self-determination
Family-determination

ABSTRACT

Family autonomy/family-determination (FA/FD) is deeply rooted in Confucianism, and is an important core value in East Asian biomedical ethics. Individual autonomy/self-determination (IA/SD) did not originate in East Asia, and is the most important core value of Western biomedical ethics. IA/SD and FA/FD are different from each other not only because of where they originated but also in their general sense and moral foundations. We investigated the influence of Western biomedical ethics on the Eastern hemisphere. We examined the secular trends of IA/SD use in ethics and biomedical ethics articles published in Taiwan from 1991 to 2010. The published articles were collected from a popular online library called the Chinese Electronic Periodical Services. A total of 1737 articles were associated with ethics, and 300 of them were associated with biomedical ethics. The total number of times IA/SD was used in each ethics and biomedical ethics article was calculated. The secular trends were plotted graphically and analyzed by time series linear regression analysis. The results showed that the secular trend of the proportion of the yearly total of biomedical ethics articles to the yearly total of ethics articles was significantly increasing ($p = 0.007$). The secular trends of the average of times IA/SD showed that one unit of yearly increase was associated with an increment of 0.056 IA/SD use per ethics article ($p < 0.001$), and 0.331 IA/SD use per biomedical ethics article ($p = 0.027$), respectively. These findings suggest that Western biomedical ethics have become increasingly influential in Taiwan over the past two decades. Thus, assuming that FA/FD takes priority over IA/SD in an East Asian medical encounter is too simplistic. Whether FA/FD or IA/SD takes priority in a medical encounter should be carefully evaluated.

Introduction

For thousands of years, Confucianism has deeply influenced the culture, philosophy, societal values, and ethical considerations in East Asian regions, including China, Hong Kong, Korea, Taiwan, and Japan (Macer, 1999). Undoubtedly, East Asian biomedical ethics, rooted in Confucianism, have many differences from Western biomedical ethics. One phenomenon rooted in Confucianism that highlights the difference between East Asian and Western biomedical ethics is the locus of authority in decision-making. "Individual persons and communities in our society have the right to pursue different conceptions of the 'good life' and to live by their own values" stated Aulisio, Arnold, and Youngner (2000). Western biomedical ethics demands and promotes the value of individual autonomy/self-determination (IA/SD). By contrast, East Asian biomedical ethics typically honor and uphold family autonomy/family-determination (FA/FD) (Fan, 1997). As defined by Fan, FA/FD means that "every agent should be able to make his or her decisions and actions harmoniously in cooperation with other relevant persons." The other relevant persons, as stated by Fan, are family members (the spouse, parents and adult children) and the physician. Fan's interpretation of FA/FD not only highlights family-centered medical decision-making, but also the long tradition of physician-centered medical decision-making (Fan, 1997).

Several studies conducted in East Asia demonstrated that FA/FD is the main ethical consideration in medical decision-making, particularly for terminally ill patients. Liu et al. conducted a study to investigate issues related to "do-not-resuscitate" (DNR) decisions in Taiwan. Only one of the 114 DNR patients acted on his/her own

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http://dx.doi.org/10.1016/j.socscimed.2012.12.001

will when consenting to the DNR order. The consents of the majority of patients to DNR orders had been provided by the spouse (56%) and children (32%). These results partly showed that IA/SD is not usually honored in clinical settings in Taiwan, particularly for terminally ill patients (Liu et al., 1999). Similarly in China, Wang et al. showed that more than half of the oncologists (52%) would inform the patient's family members of a cancer diagnosis, and only 5% would inform the patient directly (Wang et al., 2004). Although several other factors may account for this common practice, the Confucian ethical consideration that FA/FD is honored plays an important role.

In a multi-center study in Korea, Kim et al. reported that in all 296 DNR consents, the consent forms had been signed by family members. No patient had been included in the discussions, even if he/she was capable of medical decision-making (Kim et al., 2007). In Japan, Akabayashi et al. discovered that physicians usually disclosed a cancer diagnosis to the patient's family members first (Akabayashi, Fetters, & Elwyn, 1999). All of these studies clearly indicate that FA/FD, one of the core values of East Asian biomedical ethics, is usually upheld in China, Korea, Japan, and Taiwan.

Compared to Western biomedical ethics, the history of discussing biomedical ethics is relatively brief in Taiwan and other East Asian countries. A study analyzing the content of continuing medical education (CME) courses on biomedical ethics in Taiwan showed that no courses were focused on Confucianism, and that the majority of the CME courses were focused more on Western than East Asian biomedical ethics (Chen, Lee, Kao, & Chiu, 2011).

As demonstrated in Fan's and Aulisio's academic work (Aulisio et al., 2000; Fan, 1997), FA/FD, derived from Confucianism, is the core value of East Asian biomedical ethics. In contrast, IA/SD, originating from North America/Europe, is the core value of Western biomedical ethics. No study has been conducted to examine the influence of Western biomedical ethics on East Asian biomedical ethics in Taiwan and other East Asian countries where East Asian biomedical ethics have dominated for thousands of years. We therefore tried to fill this gap by examining whether Western biomedical ethics are becoming more influential in Taiwan. Because IA/SD is from North America/Europe, we considered that the appearance of IA/SD reflects the influence of Western biomedical ethics. This study examines the influence of Western biomedical ethics as shown by the use of IA/SD in articles published by Taiwanese researchers.

Methods

Data collection

The articles included in this study were collected from the Chinese Electronic Periodical Services (Chinese Electronic Periodical Services), a popular online library for searching academic publications in Taiwan. A total of 1747 articles were identified using the keyword "ethics" in English and in traditional Chinese and the following filters: 1) published in Taiwan; 2) before and including 2010; 3) excluding conference papers; and 4) excluding doctoral dissertations and master's theses. The principal investigator read through the titles or abstracts of the 1747 articles, and found that 310 (17.75%) articles were associated with biomedical ethics. We obtained the electronic or hard copies for 308 (99.36%) articles. Eight of the 308 articles, which are position papers, were excluded from data analysis. Our dataset for analysis had 1737 articles associated with ethics, and 300 of the 1737 articles were associated with biomedical ethics. Two research assistants perused the abstracts and the texts of the 300 articles. The total number of times the term IA/SD used in each article was counted separately by the research assistants using a PDF-automated search, or by using a manual search if the PDF format was unavailable. We compared the results collected by each research assistant. The discrepancies between them were identified and corrected by the principal investigator after re-examination.

We also collected and compared variables, such as the year of publication, whether the journal was listed in the Taiwan Social Science Citation Index (TSSCI), the gender of the first author, the profession of the first author, and the total amount of IA/SD used in each article. The TSSCI was established and is maintained by the Social Science Research Center of Taiwan's National Science Council (Morrison, Morrison, & Glickman, 1994). In 2011, 93 academic journals were listed in the TSSCI. TSSCI journals were regarded as being superior to journals not listed in TSSCI in the fields of social sciences in Taiwan. Professions were categorized as physicians, nurses, philosophers, and others.

Statistical analysis

The collected articles were grouped according to the year of publication. We used Chi-squared test to assess the frequency distribution of two categorical variables. We plotted the results of the following secular trends: (a) the proportion of the yearly total of biomedical ethics articles to the yearly total of ethics articles; (b) the average number of times the terms IA/SD were used per ethics article; and (c) the average number of times IA/SD was used per biomedical ethics article. We used time series linear regression to examine whether the three secular trends were significantly increasing over time. The goodness-of-fit of each regression model was examined by the value of the adjusted R square. We examined autocorrelation for each regression model by using the Durbin–Watson statistic. We performed all statistical analyses using STATA Version 11.0 for Windows PC.

Results

The total of times IA/SD was used in the 300 articles was 1191. The yearly average number of times IA/SD was used per ethics article ranged from 0 to 1.3, with an average of 0.686. The yearly average number of times IA/SD was used per biomedical ethics article ranged from 0 to 10.833, with an average of 3.970. Table S1 shows the characteristics of the published ethics and biomedical ethics articles in our study.

A significant association was observed between the gender of the first author and the year of publication ($p < 0.001$). Specifically, more biomedical ethics articles were published where the first author was a woman before 1995, whereas after 1996 more men published biomedical ethics articles, particularly from 2003 to 2007. We also found that an increasing volume of academic articles on biomedical ethics was published by physicians ($p = 0.014$). Philosophers did not publish a significant number of academic articles in biomedical ethics over the past 20 years. Perhaps this is because bioethical issues are closely related to daily medical practices [Appendix A].

Fig. 1 shows the three secular trends: (a) The proportion of the yearly total of biomedical ethics articles to the yearly total of ethics articles; (b) the average number of times IA/SD was used per ethics article; and (c) the average number of times IA/SD was used per biomedical ethics article. All secular trends have gradually increased since 1991 with statistical significance. Table 1 shows that according to Durbin–Watson statistics, there was no autocorrelation between the two consecutive values in each of the three secular trends. In addition, each time series linear regression model had a good fit as indicated by the values of the adjusted R square.