

NON-IDEAL CRITICAL REALISM ANALYSIS ON THE ETHICAL POSITIONS OF SECULAR DOCTORS TOWARDS HUMAN GENOME EDITING

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Abstrak

Rekayasa genom manusia berpotensi meningkatkan kecerdasan, penampilan, dan kekuatan fisik manusia. Masalah etis teknologi tersebut menyebabkan kekhawatiran publik. Dalam sekularisme, pencarian kebenaran moral tidak bergantung kepada otoritas supernatural. Keberadaan minoritas sekuler di Indonesia dianggap tidak wajar dalam diskursus publik sehingga tertinggal dalam proses perumusan kebijakan mengenai rekayasa genomik yang sarat beban moral. Penelitian menguraikan pandangan dokter sekuler Indonesia terhadap rekayasa genomik. Penelitian kualitatif dengan pendekatan realisme kritis dilaksanakan dengan wawancara dan kajian literatur. Dokter sekuler mengatakan bahwa rekayasa genom manusia tidak memiliki bobot moral yang berbeda dari seleksi buatan lainnya. Setelah melakukan analisis risiko-manfaat melalui kalkulus moral, dokter sekuler umumnya memiliki posisi dan sikap yang mendukung penelitian dan implementasi teknologi rekayasa genomik manusia.

Kata kunci: *Sekuler, Moral, Etika, Rekayasa Genom*

Abstract

Human genome editing could be used to improve human intelligence, appearance, and physical strength. The ethical issues posed by the technology are causing public concern. Secularism views efforts to find moral truth do not depend on supernatural authority. The existence of a secular minority in Indonesia is considered an anomaly in public discourse and is left behind in the morally critical policy-making deliberations on genome editing regulations. The research explored Indonesian secular doctor's view of human genome editing. This qualitative research used a non-ideal critical realism approach through in-depth interviews and literature review. Secular doctors say that human genomic editing has no different weight from other artificial selection. After conducting a risk-benefit analysis through moral calculus, secular doctors generally have positions and attitudes that support the research and implementation of human genomic editing technology.

Keywords: *Secular, Moral, Ethics, Genome Editing*

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INTRODUCTION

Discussions in bioethics involve biology, medicine, biotechnology, politics, law, theology, and philosophy (Obasogie & Darnovsky, 2018) and are transdisciplinary in nature. Bioethics also intersects with other branches of science that address global issues such as biodiversity conservation, food security, and environmental management (ten Have, 2016). Bioethicists are expected to be able to answer pressing questions regarding ethical issues in contemporary society (Pinker, 2015). Looking at the status quo, there is an urgency to carry out a preliminary exploration of public views regarding the moral implications of bioethical issues and could also have the potential to be developed in the study of philosophical education in Indonesia (Fadli, 2021; Hidayatullah, 2019).

Since the 1980s, Indonesian taboos such as sex education, euthanasia, abortion, and same-sex marriage have been discussed

freely in secular public spaces in Europe (De Nutte, 2019). Secularism argues that human efforts in seeking moral truth do not depend on supernatural authorities (Epstein, 2009). Alternative secular voices are now often seen in Indonesia as the anti-thesis of religious conservatives, both of whom were silenced during the New Order (Sarhindi, 2017; Schäfer, 2016). The position of secularism has various different forms in the spectrum of perspectives on religion, from apathy on the one hand to harsh criticism on the other (Quack et al., 2019). In response to the growth of secularism in Indonesia, a study of the secular population is needed so that they are not left behind in the policy formulation process (Hidayah, 2012; Madung, 2021).

Until recently, education and the provision of medical services in Indonesia are still dominated by religious institutions (Kusumawati et al., 2015). Differences in religiosity and perceptions of action as a reflection of held beliefs can predict a religious position which is interpreted as a moral position as well (Edwards et al., 2022; Skitka et al., 2018). Therefore, medical ethics education in Indonesia often instills religious values as an important aspect of the ethical decision-making of its graduates (Ekayanti et al., 2021). On the other hand, the prevalence of high critical power is found in productive populations of young people, and they have unique and critical views of various moral issues in society (Putra, 2017; Rudnev & Savelkaeva, 2016; Setiawan & Sudrajat, 2018). They also have varied responses about the various moral problems in the past and the future (Irhamahayati et al., 2018).

Some people need to hide their secular identity for fear of not getting fair treatment in society (Warburton et al., 2018). Certain positions or services are considered to be enjoyed only by people with certain beliefs on the grounds of facilitating communication and equalizing perceptions (Héliot et al., 2020). Position relations or unequal role relations are a form of conflict-prone social relations (Irhamahayati et al., 2018), causing parties in a social relationship to find it difficult to free themselves to express their beliefs freely (or lack thereof) because there are forms of discrimination and social

sanctions if co-workers and relatives know that they are different (Otto, 2016). The rapid development of biotechnology raises implementation problems laden with moral burdens, especially fair and equal access for everyone (Ogbogu & Hardcastle, 2021). The search for the perspective of a secular doctor who is different from the mainstream has a unique contribution to the development of bioethics (Menuge, 2013).

Although the knowledge of Indonesian doctors and medical students regarding gene engineering is still limited, more than half of the respondents support gene engineering, but it is limited to the treatment of fatal disorders in somatic cells and embryos (Izzah et al., 2021). Genome engineering techniques have the potential to radically modify humans, causing public concern about possible applications that go far beyond current ethical reflections and policy regulations (Porter, 2017). Attitudes toward the beliefs and moral framework of every doctor certainly have a major impact on the delivery of health services (Mahdi et al., 2016). Apart from treating diseases, genomic engineering has the potential to be used in efforts to enhance traits such as intelligence, appearance, and physical strength, which raises ethical issues (Angeline, 2020). Bioethical debates must be widely accessible and open in public spaces to form a healthy discourse (Admirand, 2019). A bioethical framework that is inclusive of secular people to bridge communication, not only tolerance between groups (Madung, 2021; Otto, 2016; Pradhan & Haris, 2021) but also can be used by future policymakers related to bioethical issues (Blacksher et al., 2020).

METHODS AND RESULTS

Ideal theory refers to the use of hypothetical conditions for achieving the ideal ethical choice. Because they are only assumed at the theoretical level, ethically acceptable decisions are few and far between (Marceta, 2019). Therefore, the idealism tradition is less suitable for analyzing bioethics which aims to solve real and controversial problems. The non-ideal theory rejects the assumption that all things will always be in perfect adherence to neutral and

impartial principles (Neitzke, 2021). This framework provides a structure by which the situation under study uses less conceptual assumptions. Critical realism is able to dissect a phenomenon that has been misinterpreted into a factual statement about the phenomenon and clarify what needs to be considered in a moral analysis (McKeown, 2017). With critical non-ideal realism, a theory can be used to interpret and analyze data, but it can also emerge from the structured data itself. A theory can be modified or expanded, and both processes can occur in the same study as in the preparation of a grounded theory (Frith, 2012).

The study used qualitative methods with an empirical approach to describe the views of secular doctors about attitudes and moral positions regarding the implementation of genomic engineering technology. Respondent criteria were doctors who are Indonesian citizens with a registration number and an active practicing license and who claim to have a secular viewpoint. Sampling was carried out using clustered snowball sampling technique due to the attitude of secular doctors who are closed to avoid discrimination from society. Research respondents were obtained by conducting surveys in social media groups and contacting mutual friends known to be non-religious or secular.

We concede that the drawback of this method is that it is prone to theoretical misrepresentation and sampling bias due to the small population and sample because it uses a realist framework and not a classical phenomenological approach. The advantages of this method are that it does not rely on many assumptions (Ockham's razor), is able to make factual findings inferences (Alderson et al., 2020), is able to produce new hypotheses if old hypotheses are rejected in observation, and can compare the views of other secularists in a valid way.

Written informed consent was obtained from each respondent before any interview was conducted. Researchers used the interview guide as an operational form to gain insight into the implementation of genomic engineering issues. During the interviews, genomic engineering topics were discussed with several

strategic keywords such as full genome editing, germ cell manipulation, designer babies, radical life extension, performance enhancing therapy, and other human enhancement efforts made to obtain an overview of the respondent's position in viewing human essence and human existence.

In this study, we report the results of interviews with 10 secular physicians who claim to have atheistic and/or agnostic views. All respondents were male and have a Christian or Catholic religious educational background from families and/or certain religious education institutions. Nine respondents positively indicated their attitude of supporting the development of genome engineering technology, while one respondent indirectly expressed doubts about rejecting or supporting it on the grounds that all levels of society could not access this technological opportunity.

ANALYSIS AND DISCUSSION

Secularity, irreligiosity, or non-religiosity is one's freedom, absence, disbelief, or rejection of religion (Swatos, 1998). Secularity occupies a broad spectrum, ranging from the condition of simply not recognizing it to having a full philosophical foundation. No simple division can differentiate between religious and non-religious positions because these labels are bound up in complex social dynamics (Quack et al., 2019). Atheists deny the existence of divinity of any kind, while agnostics argue that the question of the existence of divinity or the meaning and consequences of divine existence is epistemologically impossible. The views of atheism and agnosticism state that good and evil are not part of natural experience in the world (Furton, 2003). Secular morality can be defined as a skeptical methodological approach to the role of religion or any reference to something transcendent. The belief that morality can be derived from reason alone is based on modern philosophical traditions, which include several traditions of rationalism (Tham, 2013). Morality with a secular tradition can be further classified into two periods; the first is a product of the Age of Enlightenment, where shared morality can be achieved only by

human reason (Savarino, 2017), while the second is a product of post-modern nihilist view such that reason has failed to provide common morality (Iltis, 2018).

The polarization between religious and secular moralism is summed up in the conflict between fideist traditions and strong rationalist traditions (Brummett, 2020). Fideism claims that religious beliefs are not subject to rational evaluation and that using reason to resolve moral questions will end in repeated regression or circularity. On the other hand, the strong rationalist tradition holds that a belief must be able to rationally prove truth claims to everyone to be accepted. Attempts are needed to bridge the two bioethical perspectives to reach an agreement so that the former can contribute to the second or vice versa (Gómez, 2020). The application of secular bioethics as an epistemic attitude complemented by religious inputs can lead to neglecting other structural conditions, such as publication, transparency, and rationality, that enable bioethical debates (Erduran et al., 2019).

The increase in human prerogative as a free agent capable of changing nature results in an ontological barrier between biological life and personal life (Setiawan & Sudrajat, 2018). The possibility of using genomic engineering methods to significantly alter humans has raised public worries regarding potential uses that surpass current ethical considerations and policy guidelines (Porter, 2017). Aside from being a disease treatment technique, genomic engineering has the potential to be used in efforts to enhance traits such as intelligence, appearance, and physical strength, which raises ethical issues (Angeline, 2020). Although the knowledge of Indonesian doctors and medical students regarding genetic engineering is still limited, more than half of the respondents support genetic engineering, but it is limited to treating fatal disorders in somatic cells and embryos (Izzah et al., 2021). The implementation of genome engineering is still far from a reality, especially in Indonesia, because it requires a flexible and universally applicable legislative framework even in some limited therapeutical implementations throughout the U.S. and Europe

(Feeney et al., 2021). Religion greatly influences the attitudes of respondents in Indonesia, who are less permissive in the debate over genetic engineering applications (Izzah et al., 2021).

One of the consequences of biomedical technology is the expansion of personal responsibility whereby birth, illness, and death are no longer interpreted as God's will but are now seen as circumstances where individuals have the responsibility to choose, becoming deliberate events that have a moral burden (Cherry, 2018). In a democracy, debates, and deliberations regarding bioethical conflicts are used to justify any collective actions and provide reasons that can be accepted by all parties regarding the consequences of these actions (Gutmann & Thompson, 1997). This process goes through an evaluation cycle, starting with the representatives' and policy makers' proposals, then the community and executive respond, the people's representatives revise, the community reacts, and so on (Li, 2020).

At least two dimensions of opinion can be taken in this study, namely respondents' perceptions of research and development of genome engineering technology and attitudes or positions of secular doctors towards the implementation of genome engineering technology (Stambler, 2017). Instead of using ideal theory to describe moral obligations, non-ideal critical realism was used to analyze moral positions described by the primary data obtained from interview sessions. Even though the research uses non-ideal theory, thought experiments are needed by creating hypothetical scenarios in collecting data on respondents, especially regarding the implementation of genome engineering technology because its availability has not yet obtained a distribution permit and is also not found in the Indonesian market. We present several rebuttal points against genome engineering technology, including those often used by conservative humanists and religious people to describe the worst-case in world comparison that supports genome engineering.

Although there are some special exceptions in certain cases, secular doctors generally have a supportive attitude toward technological developments towards genome engineering. It can be

said, that most secular doctors have a progressive position in seeing the potential for the application of biotechnology and modern instrumentation to support life and human life. There is a phrase that was said by almost all respondents when we gave a brief description of genome engineering technologies, that was “Why not?” rhetorically indicating a positive attitude. Positive attitudes towards genome engineering, for example, designer babies, cannot be found universally in the population of doctors with religious views (Izzah et al., 2021) because they are considered contrary to religious teachings. Ballinger et al. (2017) showed a negative correlation between respondents' desire to take radical life extension technology and their level of religiosity. These things are described in the variables of belief in life after death, obedience to God's plan, and the search for the meaning of life in religion.

Respondents who support the implementation of genome engineering technology and ethical discussions regarding the application of genome engineering technology have a similar attitude, tending to normalize the use of genome engineering technology as an action that does not differ in moral burden from the use of conventional biotechnology and pre-existing enhancements. This is intended to juxtapose or analogize the exploration of genome engineering technologies as a step that is certain to occur, as well as several explorations of enhancement technologies that have occurred throughout history, for example the use of glasses, domestication of livestock and pets, selective breeding of plants, and the use of antibiotics that have radically changed the history of human civilization. Secular doctors cite the concepts of natural selection, the theory of evolution, and artificial selection to explain their positive view of genome engineering technology, taking the position that it is perfectly acceptable.

“With glasses, people with myopia can contaminate the gene pool of the population with myopic genes, which in ancient times may have been subject to natural selection. How is genome editing different from artificial selection? If people are

allowed to wear makeup to look beautiful, take medicine to make them strong, antioxidants to stay young, use an umbrella so they don't get sunburnt, how come they can't change the basic point of their own genome, which is the blueprint itself?" (EA)

"...modern humans also self-domesticate so that our phenotype becomes very neotenous compared to ancient humans. It's just self-selection with shorter steps, right? Later we can finally have a daughter species, whether as a cybernetic organism, we can't stay in the current format forever anyway." (AO)

Respondents AO and AA explained their opinion that the practice of implementing genome engineering is just a stage in human evolution which can then be accelerated by artificial selection rather than following the course of natural selection, which is a slow process. Human efforts to improve their condition are said to be achieved to surpass the natural homeostasis mechanisms belonging to humans that have evolved through natural selection for thousands of years. In order to achieve this, AA respondents critically added that the pursuit of genome engineering could not be achieved by using implants or doping alone but must fundamentally change the component responsible for gene regulation through genomic engineering. The use of implants or doping alone cannot change the existing homeostatic mechanisms, so the changes that may be experienced are not persistent or permanent.

"On an individual level, if you use implants, take medication, want to use doping, it's not going to change the existing homeostasis, it's just ups, but later there will be downs, and it's impossible for us to continue giving medication. It's ideal according to homeostasis, not disturbed by external substances that can threaten telomeres or protein regulation, that's what makes longevity. If indeed there are scientists who can edit genes that can make longevity, I would totally agree.

But when it comes to drugs, doping, implants, those are just fakes.” (AA)

Respondents who expressed doubts about rejecting or supporting the implementation of genome engineering technology gave several reasons related to access and side effects, for example, the opportunity for this technology was controlled by only a small number of people. Currently, genome engineering technology is still in the research and development stage on a large scale. The costs incurred are certainly not small, so it is very possible that there are incentives provided by donors and investors who have their own personal agenda. It is undeniable that there is a risk of limited access for people who have capital, so this is one of the reasons for hesitation to support development. The issue of quality assurance and utilization for the widest possible community is a difficult thing to do and exists only as an ideal assumption because investors certainly want a large return if an opportunity for the commercialization of genomic engineering technology is discovered.

On the other hand, the existence of the financial strength of these funders can be used to support the progress of technological research, which can be a reason for doubt to refuse. Another reason is the concern over the emergence of adverse side effects due to the use of these technologies which still have no solution and cannot be mitigated. By means of critical non-ideal realism, this analysis can increase the urgency of starting the bioethics debate to create a guide in development and research in genome engineering technology.

“If we don't look at the individual who received it, okay, okay. But again, who receives it is very important. His agenda for humanity more broadly, that is also important. When those who receive it are people with bad agendas, yes, of course it becomes a danger for the majority population, right?” (OE)

Bioethics as a product of human civilization was formed under the pressure of widespread social change and the collapse of

traditional institutions (Engelhardt, 2012). Attempts to translate theological claims and moral arguments into non-theological terms aim to facilitate interaction and demonstrate the universality of these theological claims beyond one's own tradition (Eberl, 2020; McCarthy et al., 2020). Broadly speaking, the bioethical debate is a social movement in response to legal dynamics in the biopolitical landscape, it also appears as a social agenda to change public policy (Engelhardt, 2012). Specifically, bioethics is used to protect patient rights despite secular moral disagreements regarding those rights (Beauchamp & Childress, 2013).

Currently, genomic-engineered products that have been approved for disease treatment therapy do not directly alter the structure or genomic makeup of humans. However, recent discoveries and the potential for commercialization of CRISPR/Cas-9 open up opportunities for genome editing, which is the next step in genomic engineering technology to improve human physical and mental abilities beyond its therapeutic benefits (Angeline, 2020). Due to the conservative character of Indonesian society, this technology's use and even discussion is very limited because it collides with religious narratives (Izzah et al., 2021). This concern is, of course, not only felt by respondents who are unsure but also by respondents who agree and support the implementation of genome engineering technology. They provide risk and benefit considerations so that they can provide requirements if there is massive support for the genome engineering movement in the future. AE mentioned the urgency of the need for a comprehensive framework that ensures research protocols, carries out strict trial supervision, and guarantees outcomes based on scientific principles regarding research control and technology development that supports the achievement of genome engineering.

“...the limit of this endeavor is a matter of pursuit. At least until now, no matter how far the technology has reached, we have been able to reach a certain stage and it has also been tested on embryos, but it hasn't been kept alive because we

don't know how good the results will be. So, I tend to agree, if you can't be sure that it's safe, don't continue, because after all, people will suffer." (AE)

Respondents stated that the implementation of good genome engineering technology must have high quality assurance and have the widest possible benefits for society. When analyzed using non-ideal realism, this argument is very difficult to implement, because investors certainly want a large return if an opportunity for the commercialization of genome engineering technology is discovered in the future. Boundaries that must be mutually agreed upon between potential service users and service providers in the use of genome engineering technology are the assurance of quality assurance, warning of side effects, provision of guarantees, and good long-term impact handling. Therefore, the core of the debate on bioethical conflicts that must be increased among bioethicists should lie in strategic steps to make the application of genome engineering technology openly accessible and affordable to all levels of society for the public good. Apart from that, the potential for bioethical issues also targets the realm of business ethics and consumer protection, which need to be observed carefully, because in the early days of its launch, these services will be classified as rare commodities.

"...that's the bitter truth of life. There is already discrimination even without that technology. All of that is subject to natural selection. Whether genetic uniformity will eventually cause an epidemic, that's still too far. Perhaps what is more likely is a food crisis caused by too many people. If problems with genetic uniformity and food shortages lead to extinction, I think that would be strange, because later technology will also be found to fight disease outbreaks and overcome food crises, right?" (EI)

One common argument usually used by conservative and religious humanists against genome engineering such as radical life extension includes the lack of natural resources and sufficient living

space if all humans have an unnaturally long lifespan. Other scenarios used to challenge the claims of genome engineering proponents are the existence of class conflict due to technological designer babies, as well as the possibility of mass extinction due to human susceptibility to outbreaks of infectious diseases that are open if genetic uniformity occurs. These arguments are often made in a thought experiment that focuses on a comparison between the world with genome engineering and the world without genome engineering. Respondent EI stated that although there may be sharp class conflicts between people who have access to genomic engineering services and those who do not or have not had access to genomic engineering technology, this is not an exclusive thing that occurs in this world, but rather occurs due to limited or inadequate public access to this technology. This was assumed to occur in all possible worlds, so that the conflict between classes would not be any worse than it is today. So even in a world that is not ideal, these class conflicts will still exist, both with and without genome engineering technology.

“Indeed, later the consequence will be that there will be a point where in one generation of humans there are those who are partly the result of genome editing, maybe indeed above average, and there are humans who are of the older generation, who are natural. So, someday, there will be social conflict, caste or groupings, and issues like that. But if you want to look at it from a long timeline, it only happened one time, later when it's over, the next generation, from the results of the genome editing earlier, they have the next offspring, who are fellow edited humans.” (IE)

Without a change in the religious anthropological conception of the working definition of human dignity, efforts to translate bioethics with religious morality into a secular context would be impossible (Żuradzki & Wiśniowska, 2020). Another crucial issue with McCarthy, Homan, and Rozier (2020) is the doctrine of forgiving sins and the paradox between autonomy and the common

good (Colgrove, 2020; Geppert & Schonfeld, 2020). The idea of sin presupposes the existence of God and involves distorting one's relationship with the creator so it is incompatible with a non-religious worldview (Li, 2020; Matisonn, 2020). For theological morality to be relevant, Tillich (1947) suggests that theology must be correlated with responding to questions raised by contemporary culture (Carlin, 2020).

Class conflict still exists in a world of designer babies where there are natural humans and engineered humans, but it occurs on a fast time frame. The physical and mental superiority of humans resulting from genomic engineering guarantees that existing conflicts will not be protracted. Following the rules of natural selection, natural humans will naturally experience a decrease in survival because they do not get the same advantages as humans who receive genomic engineering, giving rise to divergence events within the speciation period. In the nihilistic and fatalistic view cited by IE, he said humans have reached a saturation point, where it is deemed impossible to support the increasing human population with extreme climate change factors and virtually insufficient natural resources, so that even without genomic engineering efforts, humans are headed for mass extinction, so that the risk of class conflict or mass death by plague due to failed genetic engineering efforts is allowed to be taken. Using risk and benefit analysis, the moral calculus still advocates the pursuit of genomic engineering endeavors, with class conflict possibly occurring as a necessary evil, since the benefits outweigh the risks it can cause.

“These arguments that say that later there will be an epidemic that will wipe out humans, this is excessive fear and too far away. Genetics is very complex, it cannot be reduced to something too simple like that, there are still many mysteries. We can't just knock out this gene next to this gene and suddenly become like this or that. Can intelligence be enhanced so that later there will be two classes of human beings that will cause civil war? Where is this ‘intelligence gene’ located?” (YE)

YE expressed the opinion that all the fears described in the thought experiment provided by the researcher did not take into account the complexity of the organism's genome and phenotypes which are highly dependent on the environment. YE added the argument that the surrounding environment has a major influence on the phenotypic characteristics of living things rather than just a description of their genotypes. Therefore, YE cynically views the excessive fear that is regressive towards science. The reason for this answer is likely influenced by the perspective of the authors of the books they read, most of whom also support or at least are sympathetic to the genome engineering movement.

The conflict between religious public narratives and the views of a secular minority of doctors to the bioethical conflict of genome engineering technology lies in understanding timelines and the comparison of worlds. The two diachronic forms can be reviewed both in the past and in the future (Porter, 2017). If projected backwards, this involves values and positions currently held onto the context of the past, where transhumanists can claim that the human struggle for "immortality" (radical life extension) and "superiority" (enhanced abilities) has been the normative ideal of ancient philosophers since ancient times. On the other hand, future projection involves the assumption that current values and positions can reflect or predict human values and positions in viewing themselves in the future.

CONCLUSION

Secular doctors generally have positions and attitudes that support the research and implementation of genomic engineering technology, and negate the arguments given by religious circles to reject genomic engineering technology. All these moral opinions given cannot possibly originate in a metaphysical void because they come from different personal views and educational processes. Thus, the respondents' perspectives on human genetic editing generally do not always follow the guidelines of proceduralism but are still bound by certain moral commitments. By consensus, secular

doctors say that genomic engineering is no different from efforts to perform artificial selection. Secular doctors dare to take a position supporting the implementation of genome engineering technology after conducting a risk-benefit analysis through moral calculus. Without the contribution of this research, the conflict between secular and religious narratives in Indonesia will continue to be masked by the regressive public discourse and the lack of comparative literature that describes the current landscape of the bioethics debate in Indonesia.

Bioethical problems deal with relatively new questions, with limited rational ethical frameworks and pre-existing sources of moral reference. Not all theories and paradigms used by secular respondents can be understood by religious people due to differences in analytical reasoning which are methodologically and metaphysically distinctive, demonstrating a limited semantic range that cannot be reconciled. Due to differences in the views of the religious majority society towards secular, there is a logical-linguistic barrier in language correspondence theory. To solve this problem, bioethicists must go beyond the limitations of jargons in moral philosophy in a semantically meaningful way so that they can be mutually intelligible.

The theoretical implication of this research is to encourage the development of bioethics towards comparative empiricism. Non-ideal critical realism is a way that can be used well to conduct qualitative analysis of empirical bioethics without compromising the respondent's point of view. Consideration and examination of meta-ethical and methodological positions in this study are seen as ethical tasks that influence empirical bioethical processes and outcomes. The narrative approach contributes to challenging the interpretivist tradition and provides a different view of quality criteria for validation of experimental philosophy and evaluation of bioethical training.

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