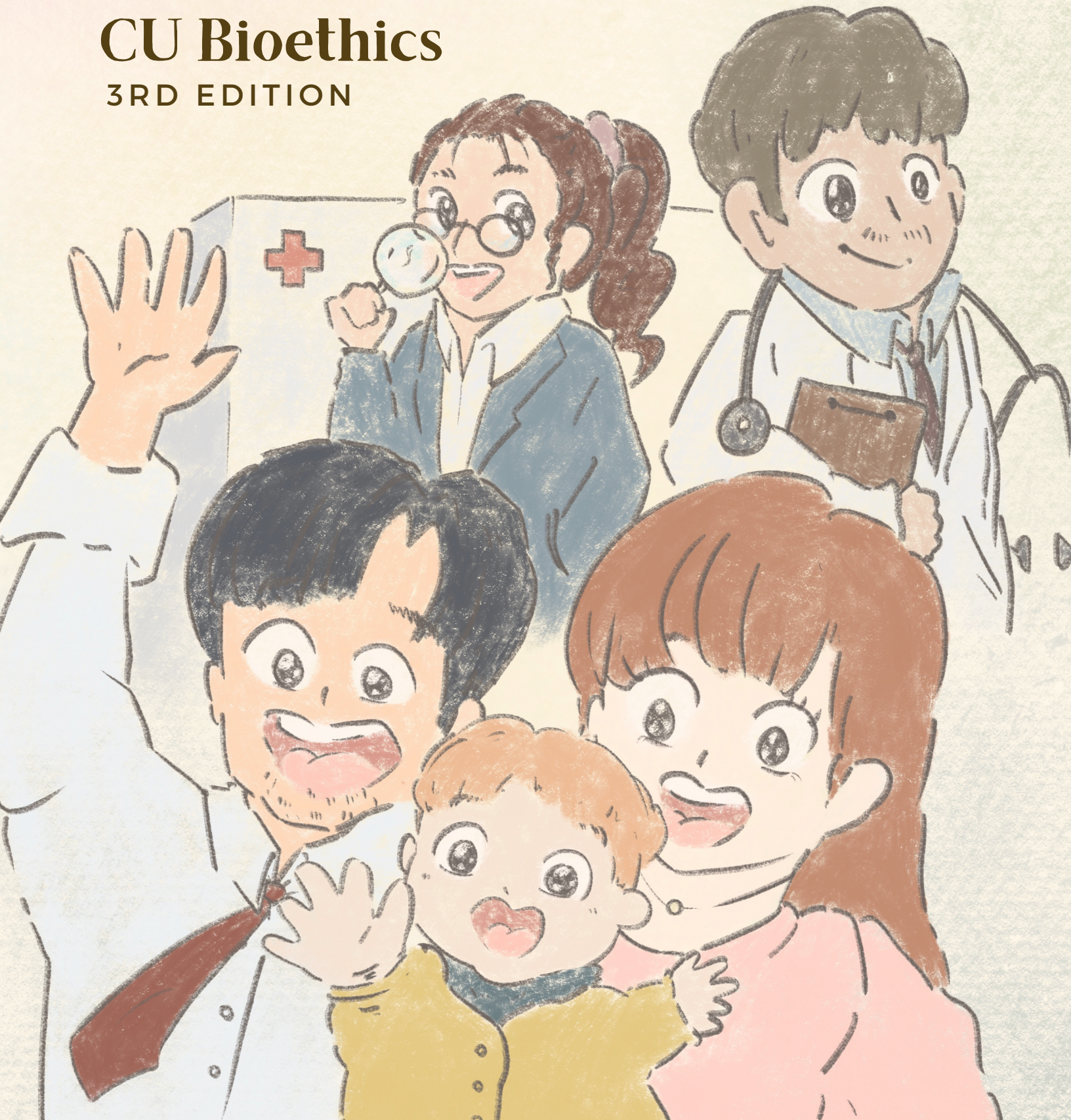
CUBE

PUBLIC HEALTH
NARRATIVES IN MEDICINE
RESEARCH AND PUBLICATION ETHICS
REPRODUCTIVE TECHNOLOGY AND SOCIETY

CU Bioethics

3RD EDITION



EDITOR'S NOTE

Welcome to the CUBE Newsletter! The 3rd edition features a series of narratives in medicine and articles on the topic of public health, research and publication ethics, as well as reproductive technology, and its influence on society.

The success of running a sustainable newsletter requires continuous planning. Since the inception of the newsletter, the student-teacher editorial team has passionately engaged in the review and publication. The senior student editors would like to hand over the baton to the junior squad so that new editors get a chance to contribute to the next issue. The outgoing and incoming student editors reflect on recent years of growth and expansion in the newsletter, pondering and planning for the challenges ahead. Our team is looking forward to expanding the scope of the CUBE Newsletter to include book, film, documentary, and drama reviews.

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PERIOD POVERTY: THE RARELY ADDRESSED PUBLIC HEALTH CRISIS

TSANG CHO MAN, M27

When we talk about poverty, what are the first few thoughts that pop into your mind? Are you thinking of the situation of a family of six living in a cramped, windowless and unhygienic subdivided flat or homeless people seeking to achieve their physiological needs on the street? In today's world, when the leaders of several nations have spoken with one voice to tackle poverty, a particular type of poverty — period poverty — has remained largely neglected.

Period Poverty

Period poverty is the lack of access to sanitary products, menstrual hygiene education, toilets, handwashing facilities, and waste management [1]. Females suffering from period poverty have to use other substitutes, such as old rags, leaves or newspapers, reduce napkin changing frequency or even use nothing [2].

Meeting the hygiene needs of all adolescent girls is a fundamental issue of human rights, dignity and public health, said Sanjay Wijesekera, former UNICEF Chief of Water, Sanitation and Hygiene. However, not all the females in the world can enjoy this fundamental human rights. Globally, there are more than 5 million people have no access to menstrual facilities during their periods. In India, only 12% of women have access to sanitary products while one in five American girls have missed school due to a lack of period protection [3]. These statistics support the fact that inadequate menstrual hygiene has never been a unique problem affecting only a few countries. Instead, it is troubling populations in the developed and developing world, particularly those who remain trapped in the poverty cycle [1].

Impacts of Period Poverty

According to UNICEF, poor menstrual hygiene can cause physical health risks and has been linked to gynaecological infections. In the worst-case scenario, people who have been using sanitary products longer than intended may have a higher chance of developing life-threatening toxic shock syndrome.

Apart from having higher physical health risks, period poverty may also negatively affect mental health. People may feel distressed and uncomfortable if they fail to manage their period with appropriate and sufficient menstrual products. According to a study of college-attending women, 68.1% of participants who had experienced period poverty also had symptoms of moderate-to-severe depression. This rate was significantly higher than those who did not experience period poverty [4].

Period Shaming

Menstruation is normal vaginal bleeding that occurs as part of a woman's monthly menstrual cycle. It is a normal physiological process. Yet, cultural and religious shaming around periods has led to discrimination that could hurt young girls' self-esteem. In Uganda, many girls skip school whilst on their period to avoid teasing by classmates. In some areas of rural Nepal, menstruating women are deemed impure by their community and banished to huts during their cycles [1].

Now being in the 21st century, when our society is claimed to be modern and improvised, menstruation remains a taboo in many countries worldwide because myths and misconceptions about it are still deeply rooted in different cultures across the globe. People find it uncomfortable when discussing menstruation despite it being a normal physiological process. Period shaming causes females to be ostracised from basic activities, such as eating and socialising, which undoubtedly leads to gender inequality. Under the patriarchal society, the cultural and religious beliefs on menstruation have suppressed females' status, and they are discriminated based on their genders.

For people who menstruate, the period seems to be something we seldom discuss openly without minding the occasional stares. However, menstruation is considered a bad omen, while menstrual products are necessities instead of luxuries. Menstrual equity can only be attained when the period is no longer stigmatised, with period products becoming more accessible, affordable and safer to use.

Every female has the right to bleed with dignity.

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ARKANSAS INMATES WHO WERE GIVEN IVERMECTIN UNKNOWINGLY TO TREAT COVID-19: A REFLECTION

CHAN WAI YIN, M25

In 2021, four inmates at an Arkansas jail were given Ivermectin, an antiparasitic drug, to treat COVID-19 without being informed that they were partaking in a clinical trial for the drug. They were told that the pills they were given were "vitamins, antibiotics or steroids", as the nurse administering the pills had hidden the labels of the medication from them.

Not only is Ivermectin not approved by the US FDA for treating or preventing COVID-19 in humans, but it has also been said that taking large doses of the drug can lead to serious side effects and is thus dangerous for humans. Despite all these warnings, the center treating the inmates, Karas Correctional Health, responded to the medical enquires with an apathetic tone, admitting that they had provided the inmates with Ivermectin without their consent but there had been no reported deaths.

The news had caught the attention of the public, with most people agreeing that this is an obvious violation of bioethical principles. First of all, this example is a clear violation of autonomy. By definition, a patient should have the ultimate decision-making authority for their own treatment, and in order to make the best decision, the patient should be informed of their own treatment. In this case, the inmates were not provided with adequate information and were, in fact, information was concealed. Hence, it was impossible for them to give informed consent for the treatment, to the doctor providing medical treatment, which amounts to violation of their autonomy.

Beneficence and non-maleficence are other two principles that have also been violated in this case. Since the US FDA had not approved Ivermectin for COVID-19 treatment, there is no clear evidence that inmates would have benefited from it had they contracted the virus. On the other hand, while we are not sure about what the drug can do to the virus, the side effects

of Ivermectin are harmful to the patient's health. Moreover, the decision to provide the inmates with the drug had solely been based on the interests of the health center, who had been focused on to gathering data for the drug trial. Hence, it is clear that the treatment plan in this case violated the principles of beneficence and non-maleficence.

As for the principle of justice, all individuals should be given fair treatment regardless of their backgrounds. However in this case, the inmates were lied to and chosen for the clinical trial because of their position and identity as prisoners, which was an unfair way for researchers to select participants into a clinical trial. Inmates are still humans, and they should not be deprived of their basic human rights at any point of time.

Furthermore, many are concerned about whether clinical trials themselves are ethical, or if we are sacrificing the participants for the "greater good". Personally, I believe that it is an inevitable step and that we need clinical trials to prove that the medication or vaccines actually would work on humans, instead of using them on people without testing and hence harming a greater population. Therefore, I believe that we should focus on how to make clinical trials less harmful for the participants.

To start with, the selection of subjects should be random and fair. The researchers should randomly select the participants within the general population and ask for their consent. They should not be targeting a group because of their vulnerability, such as prison inmates in this case, who do not have enough access to the outer world to ask for help. Similarly, people with financial difficulties may be easily lured into taking part in trials for monetary rewards.

Informed consent is another equally important aspect, as the participants should know what the clinical trial is about or whether there are possible consequences in the case that the drug doesn't work as planned. It is also essential for the researchers of the trials to respect participants' rights, meaning that the participants should be free to leave the trial anytime they want to and not be deprived of their basic human rights.

Last but not least, the effectiveness of drugs should be ensured before moving on to human subject trials. As obvious as it seems, many drugs are not thoroughly tested before clinical trials because manufacturers want to get approval for the drugs as quickly as possible. To tackle this, stricter guidelines and monitoring should be implemented to deter manufacturers from committing such violations. Meanwhile better medical and legal support should also be provided for the participants in case they do need help.

To conclude, this news example is a saddening, but eye-opening case for the medical community and the pharmaceutical industry, and hopefully can serve as a reminder for better changes.

IMPACTS OF AN EXPONENTIAL INCREASE IN COVID-RELATED PUBLICATIONS – A BRIEF DISCUSSION

SHAUN LEE, M24

It has been almost two years since COVID-19 was first discovered, yet the urgency and significance of COVID-related research have remained wholly undiminished. Coronavirus-related publications and preprints rocketed from almost nil in early February 2020 to more than 200,000 just within nine months. The spectrum and topics are also very broad and ranged from the initial focus on the spread of disease, outcomes after hospitalisation, diagnosis and testing, to public health containment measures and the effects of the COVID-19 pandemic on mental health. Scientists are also turning to other avenues apart from journals to disseminate their work quicker, using preprint platforms such as medRxiv and Research Square, accounting for up to 30% of all COVID-related papers published in 2020 [1]. All in all, coronavirus-related research has been – and still is – increasing exponentially. What impacts does it bring?

In the face of this deadly virus, and paucity of information regarding its origins reservoir, mode of transmission, mortality, prevention, and treatment, scientists are coping with this unprecedented and urgent threat with various ways and mindsets. They are in a race to find methods to combat this disease – and it is a tough one. With this critical situation, it is not always possible to devise feasible gold-standard experiments like large, randomised control trials (RCTs) to test out hypotheses and conduct investigations, nor is there much time to think over the principles of the experiments and conjure the most ethical and unbiased way of conducting the tests. Researchers are also at risk of encountering scenarios of duplication of effort, where similar hypotheses and experiments have been tested and carried out by colleagues around the globe [2].

Some hold the perception that exceptions to high standards for quality during this crisis may be understandable and even necessary. Indeed, a group of scientists reviewing a suboptimal study on hydroxychloroquine commented that 'Given the urgency of the situation, some limitations of this study may be acceptable, including the small sample size, use of an unvalidated surrogate endpoint, and lack of randomisation or blinding [3]. But, to what extent are core methodological components that ensure a high scientific rigour compromisable in emergency situations?

First of all, some doubt the feasibility of having large ethical RCTs, and believe that large RCTs may be unethical as some novel treatments may be inferior to existing management regimes. The smaller and quicker studies are thus justified and even more appropriate ethically.

In fact, this issue has been discussed before, during the Ebola outbreak in 2014. In response, the Council for International Organizations of Medical Sciences (CIOMS) revised the 'International Ethical Guidelines for Biomedical Research Involving Human Subjects' in 2016, stating:

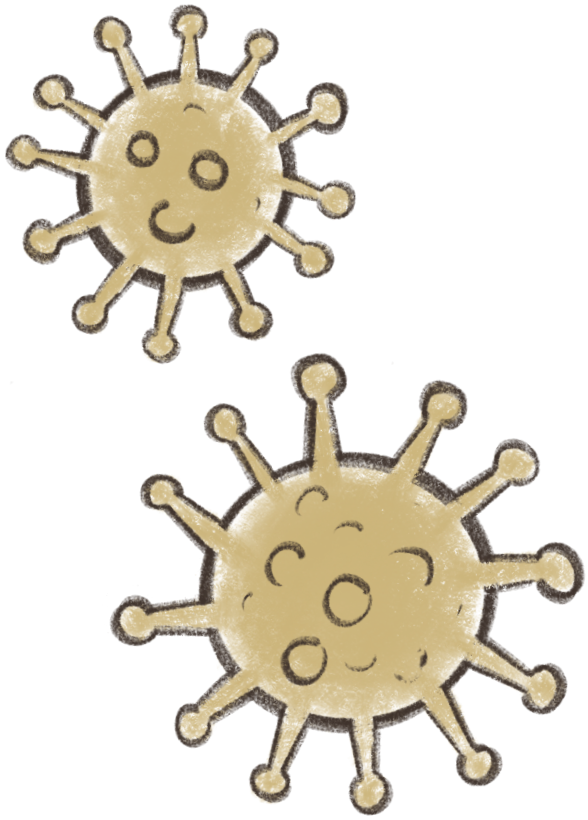
> *'The ethical justification for undertaking health-related research involving humans is its scientific and social value: the prospect of generating the knowledge and the means necessary to protect and promote people's health [4].'*

The term 'equipoise' refers to the state of uncertainty and disagreements in the medical community over the relative merits of diagnostic, prevention or treatment options. When a study is designed to disturb the equipoise, it is allowed a claim to social value since it aids healthcare providers and patients make better decisions on choosing different interventions and management plans [5].

Another common mindset is that some quick evidence, though flawed, may be preferable to, and more efficient than, other more-demanding studies, which might require more resources and time for conclusive results. But rigorous guidelines for high-quality studies are in place for a reason and the challenges that the rules tackle remains even in situations of crisis. Flawed, small non-randomized studies that utilise basic science and preclinical research may give promising results but are often not replicable or confirmed in subsequent trials. Instead of providing preliminary guidance for healthcare professionals and saving resources, this could worsen the pandemic crisis, generating misinformation and creating false leads that may divert limited resources to futile dead ends.

This also leads us to another issue that has arisen, perhaps inevitably given the situation – the tremendous pressure and burden exerted on peer-review systems. Given the sudden explosion in COVID-related journal submissions, it might be expected that there would be a delay in the processing, but the data is surprising. Although submissions have increased (Journals in the JAMA Network received 53% more submissions in 2020 compared to 2019), an analysis of 14 journals found that average publication turnaround times had almost halved from 117 to 60 days, as COVID-19 papers have been given

priority and publication pipelines have been fast tracked [6]. This is excellent news to those with new findings of this pandemic, but at the same time casts some stress on the peer-review system – which is a crucial element in safeguarding and maintaining the high quality of publications in journals. The editor-in-chief of the Journal of the American Medical Association (JAMA), Howard Bauchner, noted that low-quality submissions are increasing. This brings us back to the problems with conducting small, quick, but flawed studies, which may swamp the peer-review systems, delay publication times, and in worst-case scenarios, slip past the safeguarding systems, spreading misleading information through the heavily scrutinised journals.



In June 2020, a study on hydroxychloroquine was retracted from the Lancet. Another survey of cardiovascular drugs and mortality in COVID-19 was retracted from the New England Journal of Medicine, a renowned leading medical journal [7,8]. In June 2021, a bigger scandal occurred when a publication in the Swedish journal, Vaccines, with data misuse issues, claimed that COVID-19 vaccines kill, leading to six virologists and the editor-in-chief resigning from the editorial board [9]. The impact of misleading data from flawed, rushed studies are severe and profound – especially when they get past the safeguarding systems in highly renowned and trusted journals. While papers can be retracted – and the speed of retraction has increased significantly from the typical 3-years to merely months – the impact is still huge. The study in Vaccines was retracted within a week but still drew more than 500,000 full-text views as of 1 August 2021, and has been used by anti-vaccination activists as evidence to support their opinions on social media.

Perhaps fortunately, journals are not the only outlet for scientists to disseminate their work; Increasing researchers have also been resorting to preprint platforms during the pandemic to gain attention to their data – and this raises interesting issues with both beneficial and adverse effects.

So, what are preprints? They are scholarly manuscripts posted on an openly accessible platform, usually before or in parallel with the peer-review process [10]. Preprint servers and platforms provide scientists with a free method to disseminate their work with ease, informing

policy and speeding up research progress. They are also much quicker to publish and allow authors to obtain feedback from not just few reviewers like in peer-reviewed journals. Preprints may sometimes also be accepted by funders as evidence of research productivity and could be included in some grant applications [11]. During this time, when journals are swamped with submissions, it might simply be easier first to publish the findings at preprint platforms while waiting for journals to accept your paper.

Although preprints can seem to be an exciting way out for scientists to disseminate their work (and it has gained popularity in some science fields like physics), some issues remain, which makes one question blatantly evident is whether they are suitable in the medical field, especially during the pandemic. These include inconvenience and unseen barriers to being accepted by journals after having published on some preprint servers, as some journals may turn down papers that have already been submitted to preprint platforms; preprint citations sometimes do not indicate that the citation is a preprint and thus may lead to confusion and mislead readers, and while the advantages of preprints may be prominent in the scientific field, weak preprints may get overblown in media, leading to misleading and confusing information released to the public.

A trial published in the preprint server medRxiv claimed that an experimental prostate cancer drug, proxalutamide, reduces the death of hospitalised COVID-19 patients by 77% [12]. Many experts describe it as 'too good to be true' and much doubt has been cast on the trial, which has not even been peer-reviewed, but was quickly reported in Brazil by mass media and touted as a miracle cure by the President himself [13]. Although the majority of preprint servers do have some form of screening check, an important difference between journals and preprint platforms is that there is an 'embargo system' in place established by science journals wherein qualified journalists will be able to access papers a few days ahead of the publication but are not allowed to report on the paper. This ensures that reporters will take time to assess the research, and fact check, and gather more expert information and opinion [14]. This system is absent in preprints, and since the speed of reporting is crucial in media, journalists may rush to be the first to report these breaking news articles and important findings without enough fact-checking. Misleading information can thus go viral quickly.

The suddenness and severity of COVID-19 have caught many countries unprepared and left scientists scrambling to respond and counter this outbreak. We have gotten back to our feet quickly, and our progress has been encouraging; however, we must take care to avoid missteps during this unprecedented rush for knowledge, stay strong against pandemic research exceptionalism, and continue upholding our highest standards in research and development.

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WHEN DO THE ENDS JUSTIFY THE MEANS?

REFLECTIONS ON THE ETHICS OF CLINICAL TRIALS AND EXPERIMENTAL MEDICINE

LAU CHUN KIN, M25

In the second week of 2022, a rather sensationalist headline took social media by storm— "Surgeons transplant pig heart into human man". To most, this seemed like a clear-cut win for modern medicine, another step to realise the reality where transplant waiting times are a thing of the past and patients can receive an organ replacement anytime they need one. To others with more nuanced views, while they might not fully condone xenotransplantation, they might still not find any major bioethical red flags concerning this particular case, given that the patient concerned was deemed ineligible for a conventional heart transplant due to other end-stage illnesses, and the U.S. Food and Drug Administration granted emergency authorisation for the procedure on compassionate grounds as well. However, is this case ethically justified? Before we address this question, let us first rewind time by around two centuries, and consider the actions of Edward Jenner, the father of vaccination.

Back in 1976, as the smallpox epidemic ravaged the countryside and cities of England, the British physician Edward Jenner made an interesting observation— milkmaids who looked after cows and had been infected with cowpox seldom suffered from the more lethal smallpox. Putting this observation into practice, Jenner recruited James Phipps, the eight-year-old son of his gardener, and infected him with cowpox. A few weeks later, he further deliberately infected Phipps with smallpox to see if the young boy would develop the disease. Succeeding in his experiment, Jenner then developed a vaccine for smallpox, yet at the same time became someone who is often criticized for conducting unethical experiments, especially ironic for someone who is said to have "saved more lives than the work of any other human" [1].

So were Jenner's actions indeed unethical? To the 21st century human, Jenner's actions might seem to be unthinkable, brutish, and

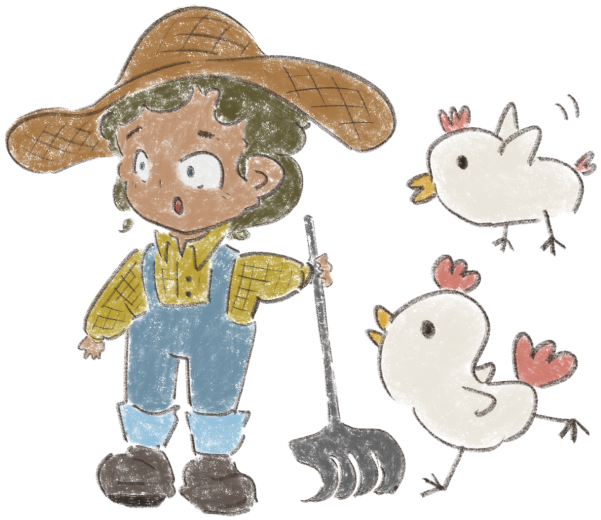
reprehensible, akin to the CRISPR experiments performed on human twins by the universally condemned Chinese scientist He Jiankui.

After all, even amid the global COVID-19 pandemic the most devastating in nearly a century, researchers of COVID-19 vaccines did not directly vaccinate and then infect the test subjects with COVID-19 as Jenner did. Instead, they relied on double-blind clinical trials and the resulting epidemiological data to validate the vaccines' effectiveness. However, in my opinion, this is not a valid argument against Jenner since we should not use today's standards to judge past actions. After all, in Jenner's era, concepts such as the double-blind placebo-controlled clinical trial and epidemiology did not exist. Nonetheless, given that the Hippocratic Oath existed for over a millennium, I still believe there are universal moral values that can be used to judge the ethical basis of Jenner's action.

Some, who subscribe to the moral philosophy of consequentialism, argue that Jenner is on the right side of history, given that the right action is the one that will produce the best consequences. Since Jenner is facing a disease that killed around 10% of the population in his time [2], consequentialists would argue that even the slight possibility of finding a cure for smallpox would justify his experiment. After all, the life of a single boy, who had a 10% chance of dying from smallpox anyway, is nothing compared to the possibility of the millions of lives that could be saved should the vaccine prove to be effective. That is indeed the case. Jenner's experiment might not be the best option if we were only considering the welfare of the boy. Yet, he might very well be doing what is best when taking the welfare of all his other patients into consideration and to a certain extent fulfilling the principle of beneficence and the philosophy of utilitarianism.

However, I take a contrary view. This is because physicians first and foremost have an obligation to their patients as an individual, which takes precedence over the welfare of the majority. Such a concept can be traced back to the Hippocratic Oath, where Epidemics, Book I, of the Hippocratic school says: "Practice two things in your dealings with disease: either help or do not harm the patient" [3]. Indeed, while physicians should care for the community they serve, they must never forget that their responsibility to their patients is their paramount obligation. "To sacrifice the few to save the many" sounds ethical in certain circumstances, but should never be considered in the case of a physician. Hence, in my opinion, Jenner failed in his first and foremost duty as a physician. Indeed, the question of patient autonomy, informed consent, and coercion remains unanswered.

Phipps was the child of a gardener who was under Jenner's employment. This by itself already implies an imbalance in the power dynamic between Jenner and Phipps's father, given that Phipps's employment and livelihood might be at risk should he reject Jenner's offer. Jenner's ethical transgressions may have been relieved had he given enough information to Phipps's father to assist him in making an informed decision or if Phipps gladly and gratefully took part in the experiment without coercion. Nonetheless, while we might never have enough information to make an informed judgement, an imbalanced power dynamic still underscores the relationship between doctor and test subject, which would forever cast doubt on Jenner's moral compass.



In a nutshell, while I lean towards Edward Jenner having failed on his bio-ethical obligations as a doctor, I must admit that in the absence of knowledge of clinical trials and controlled experiments, there is little else Jenner could have done to prove the effectiveness of his vaccine.

Nonetheless, I still believe that the existence of universal values that transcend time, and that Jenner's conduct is unbefitting of the physician profession that is entrusted with the lives of patients. So, back to our original topic, was the pig heart transplant justified?

Having taken a deep dive into the history of the experiments of Edward Jenner, one would realize the huge progress in performing clinical trials and experimental treatment. Indeed, aside from issues regarding religious values and animal rights, the main concern I have regarding the surgery was the welfare of the patient. After all, for xenotransplantation in the past, no patients survived more than a month after surgery. In 1984, doctors in California tried to save a baby girl's life by giving her the heart of a baboon, but she died 21 days later. While 40 years certainly means a lot in terms of advancement in medical science, such an experimental treatment might still entail additional suffering and only increase life expectancy by an insignificant amount compared to the original peaceful death. Nonetheless, as long as the patient was given adequate information to make an informed decision for himself, I do not believe there would be any significant ethical concerns.

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MEDICAL HIERARCHY IMPEDES TEAMWORK AND PATIENT CARE

CHEUNG WAI LAM, M25

On 12 October 2021, a female doctor who committed suicide at Pok Oi Hospital circulated on the Internet revealed critical management errors [1]. She was extremely guilty of the death of a patient who died during brain surgery in Tuen Mun Hospital in July of the same year. The assistant consultant, who was her senior colleague in charge of the operation, was accused of a blunder that caused the patient to undergo "resuscitation" for almost two hours. She believed the tragedy would not have occurred if she should have confronted and challenged the colleague's decision. The case draws much attention to medical hierarchy, despite the uncertain truth.

Medical hierarchy refers to medical staff being ranked based on disciplines and levels of authority [2]. Junior doctors are usually appraised by seniors, and thus the power dynamics undoubtedly favour senior members. This hierarchy makes it difficult for juniors to question seniors' judgement and may result in problems in cooperation which, in turn, may also severely impede healthcare efficiency [3]. Excessively strict hierarchy can jeopardise the healthcare system and affect the ability of lower-ranking members to feel respected or voice their opinions freely.

A secured workplace environment is of paramount importance in a healthcare team. Otherwise, miscommunication may arise. Unfavourable power dynamics can seriously hamper teamwork. Worse, it may even affect the appropriateness of diagnosis and treatment. A team might have arrived at the diagnosis or adopted an appropriate treatment earlier if there had been no miscommunication. The chances are that senior medical professionals may overlook their own mistakes. Facing co-workers' mistrust, one can be frustrated yet helpless. Under certain circumstances, the lack of team communication may even compromise a patient's wellbeing and safety.

Medical hierarchy also impacts professionals' well-being in the long run. A study has shown the negative gendered experiences of female medical students are exacerbated by seniors, discouraging them from "speaking up" if similar circumstances were encountered again [4]. Challenging or speaking up to authoritative colleagues is exceptionally vital in maximising medical efficacy, particularly in high-risk areas, such as operating theatres [5]. Worse, failure of delivering the proper treatment due to miscommunication imperils patients unnecessarily.

Only if there is a harmonious workplace will the doctor-patient-family and team communication be facilitated, which also reduces the risk to the patient's safety. Another comprehensive research has illustrated that disruptive team conflicts can distract medical professionals from patient care and decrease the quality of care in both direct and indirect ways: delaying the provision of patient care and giving rise to medical personnel expressing negative attitudes toward patients. The study also suggested that more team conflicts ensued in the medical hierarchy, leading to severe consequences in terms of timeliness, patient-centredness, and efficiency [6]. Failure to make a concerted effort due to miscommunication among a healthcare team hinders patient care. Team conflicts can also undermine the trust of patients and their families. Patients may question a medical team's fulfilment of their duties if the unit is not showing any joint efforts. The team's professionalism may be doubted, and thereafter miscommunication between the team members and patients ensues. Medical profession is not about seniority but about delivering the best healthcare to patients as a topmost priority.

Beyond a shadow of a doubt, Hong Kong's public health sector is already seriously overloaded and understaffed, and this plight will only worsen if unfavourable power dynamics continues. It is high time for Hong Kong to break the medical hierarchy system, with quality management of hospital staff, possibly by reviewing current practice and formulating preventive measures.

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THE BATTLE AGAINST MALIGNANCY, WITH INSUFFICIENT MONEY

LO WING SUM AMY, M25

Experience at PWH's Department of Anatomical and Cellular Pathology

Do you recall studying laboratory techniques like Immunohistochemistry (IHC), Haematoxylin and Eosin Staining (H&E Staining), Fluorescence in-situ Hybridisation (FISH) and Sanger sequencing from Molecular Medicine and Genetics lectures? I was fortunate enough to observe and carry out these tests at Prince of Wales' Hospital (PWH)'s Department of Anatomical and Cellular Pathology (ACP) as a pre-clinical student. At first, I solely concentrated on how the written text in the lecture notes was carried out in real life step by step. As the staff kindly explained the purpose of each procedure, I could not help but ponder over the bigger purpose of these experiments.

Each slide we dewaxed contained the biopsied tissue of a patient, whose life was threatened due to a tumour. It struck me that these molecular tests provide the life-or-death answer to them, depending on the grade and type of tumour they have. Their expected survival, the kinds of therapy they can choose from or even worse – whether there is any treatment for them at all. Such behind-the-scenes work unravels the fate of the patients, and it is our responsibility to meticulously carry out each step as promptly and accurately as possible with the patients' interests in mind.

A Thought-provoking Case

Other than routine molecular tests, I was lucky enough to encounter a case that required RNA sequencing. This technique was not covered much in our genetics lectures since it is not commonly done in regular laboratory work. However, its complexity is incredible, with a week-long wet lab process and robust interpretation of results subsequently. The patient was a 16-week-old girl with an infantile hemispheric glioma. She required RNA sequencing because she had become resistant to the first-generation drug, Larotrectinib [1], while the second-generation drug was not readily available yet. She needed a positive RNA sequencing result for NTRK fusion to apply for compassionate use of the second-generation drug from the drug company. Several polymerase chain reactions (PCR), washing, library preparation and amplification steps had to be performed over an entire week using

expensive reagents and machines to prepare the samples for RNA sequencing. It then took another day for uploading and processing the raw data before they could be interpreted to yield the final results. The only two "lucky" things were that the child was supported by the Children's Cancer Foundation [2] so she could afford the expensive RNA sequencing test; and that her NTRK fusion results were positive so that she could obtain the second-generation drug she desperately needed.

Patients

However, some patients were even unluckier and were not financed to receive the several hundred thousand dollars' worth of RNA sequencing tests when they needed them. IHC, H&E staining, FISH, and Sanger sequencing are comparatively less expensive than RNA sequencing. Yet, these tests may not be able to recognise some specific targets. For example, IHC tests for mismatch-repair genes, while FISH can test for loss, gain, fusion or break-apart of chromosomes but cannot identify the precise segment lost, gained and the break-point as accurately as RNA sequencing. Therefore, more advanced and costly tests, like RNA sequencing, may be necessary for some patients who require some types of targeted therapy. Yet, some patients may have decided to pay out of their own pockets for the test but received negative results closing doors for the use of targeted therapy. Let's say the patient is a 70-year-old elderly man with one million dollars in savings and has already tried all kinds of conventional cancer treatment, including chemotherapy and radiotherapy, to which he did not respond well.

Should he "buy himself a chance" - to try a new kind of targeted therapy, by spending several hundred thousand dollars on an expensive molecular test, with the possibility of yielding negative results? Even if the results are positive, he may not be able to afford the patented drugs not supported by the Hospital Authority. He may ultimately spend his entire fortune on both the test and expensive medications in exchange for possibly only a few more months of survival, but result in bankruptcy and burdening his children with heavy debts. These are, of course, very personal choices made based on one's financial standing, family circumstances and intrinsic values. However, it is undeniable that numerous patients have to make such challenging decisions every day.

The Hospital Authority

Who is responsible for this predicament, then? It is a fact that the Hospital Authority (HA) does not support certain tests and drugs. Then, is the problem resolved if the HA subsidises all patients to undergo all molecular tests and purchase all the drugs they need? Of course, it is not as simple as that. With limited resources, HA has to choose between financing a few patients to undergo RNA sequencing and acquire expensive targeted therapy medicine, or supporting many patients to receive less costly tests and conventional treatment. Even if the HA does support expensive molecular tests like RNA sequencing, patients may have to be left to pay for the medication themselves should they have the target protein in the tumour. If the patients cannot afford the targeted therapy even if they do possess the target protein, it may seem like the molecular test subsidy has been wasted.

Aside from the procurement of reagents for molecular tests and drugs, the HA's resources must also account for the workforce for executing the advanced molecular tests and interpreting their results. Even if the HA is willing to spend money on training and employing people with expertise in these domains, the number of trained personnel in Hong Kong may not be adequate.

Under such dilemmas, the ethical principle, justice comes into play. From a public health perspective, the burden of the disease, and the number of people requiring the medical test and treatment are two of the most critical criteria in determining whether resources should be allocated to those areas [3]. Most cases solely require screening of H&E slides by pathologists, while only some require simple molecular tests like FISH. Very few require advanced tests like RNA sequencing for diagnosis and treatment

options. At the same time, targeted therapy is only effective in patients who have undergone molecular testing and harbour the respective target of the drug. Advanced tests and targeted medicine are indeed less necessary when considering the population as a whole, and maybe less prioritised under limited resources.

However, that does not mean the smaller group of patients who need the unsubsidised tests and drugs but cannot afford them should be neglected. Some medications that are clinically beneficial but too expensive for the HA to finance are classified as self-financed items (SFIs) with safety net coverage. Patients who meet specific requirements are given subsidy by the safety net, comprising the Samaritan Fund and the Community Care Fund Medical Assistance Programme, while those who can bear the costs have to pay out of their own pockets [4]. On the other hand, some SFIs with less clinical evidence do not have a safety net coverage, and patients must meet the expenses themselves [5]. The First Phase Programme was implemented in 2011 to assist patients who meet specific criteria, including referral and means test, to purchase SFIs without safety net coverage [6]. An example of this is Temozolomide, a drug for treating glioblastoma multiforme [7,8]. Despite the implementation of financial assistance schemes, it may still be insufficient to sustain the patients' medical expenditures, as there are still patients struggling financially but do not meet the requirement and those who require SFIs are not present in the First Phase Programme.

This is a complex and profound problem left unresolved, as it would require a massive expansion of the HA's budget to meet all expenses but at the same time, may not be ethical to require all taxpayers to pay for these extra costs. It is also unrealistic to require all citizens, especially those in less privileged circumstances to purchase comprehensive insurance plans with high enough coverage for even expensive medications to alleviate the burden of the public healthcare system. Alleviating this issue would require the concerted efforts of multiple stakeholders in improving the resource allocation of the HA, with regular reviews of external funds that can subsidise the patients and the latest clinical evidence of new drugs to be included in the HA Drug Formulary.

Drug Manufacturers

If the public healthcare system cannot manage to subsidise all patients for all required tests and drugs, what about reducing their costs? One of the reasons for certain tests and drugs are so expensive in the first place is that they are patented. A patent is a legal instrument that conveys to the patent holder the right to exclude others from making, using, selling, or offering to sell the subject matter of the patent [9]. Medical patents include patents for medications like Temozolomide [10] and molecular technologies like Next Generation Sequencing, which use machines and reagents from Illumina [11]. Yet, medical patents exist for a purpose – to provide monetary incentives for manufacturers and institutions to enhance the quality of medical care for patients [9].

Patents serve to protect the brand companies as they went through years of repeated animal and

and clinical studies to succeed in producing a safe and effective new drug. The reason why generic drugs can be cheaper is that generic manufacturers need not repeat the numerous expensive trials to produce the drug [12]. Indeed, if the patent system is abolished, generic drugs can be manufactured sooner, and patients could more easily afford the medications, but the brand companies may no longer be able to afford to develop more new and effective choices for the patients. Therefore, the patent system should remain but with suitable monitoring to prevent any abuse for yielding excessive monetary gain and compromising the patients.

Conclusion

Ultimately, there is no silver bullet to solving the dilemma. With multiple parties involved – the patients, public healthcare system and drug manufacturers, it requires their joint effort in upholding ethical principles to achieve a optimally beneficially situation for all the stakeholders involved. To move closer towards the goal of providing affordable and effective healthcare, allocating healthcare resources fairly and developing new technologies and medications timely, regular reviews of the current systems and suitable checks and balances can be in place to ensure the principle of justice has been upheld.

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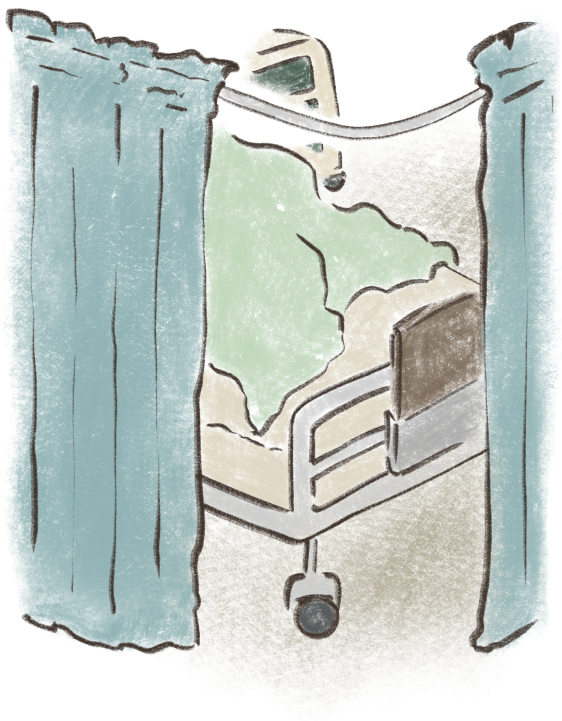
THE COMPLEXITY OF MEDICAL DECISION-MAKING: AN OBSERVATION FROM MY INTERNSHIP EXPERIENCE

EUNICE CHAN, M25



A patient walked into the consultation room with her adult daughter. A younger daughter joined the discussion on treatment options via a phone. The patient had pancreatic cancer and previously underwent chemotherapy, but unfortunately, her condition had recently relapsed.

The consultation proceeded as usual until treatment options were discussed. The doctor explained that if genetic testing deemed the patient suitable, targeted therapy could bring therapeutic effects. But there was one problem; the current indication was that the patient would have to receive chemotherapy before starting targeted therapy.

While the elder sister continued to inquire about the details of genetic testing and targeted therapy, a stern expression appeared on the face of the patient, who had, up until now, remained quiet. “I do not want to receive any treatment”, she said, “I firmly rest upon my decision not to receive any treatment”. Upon hearing this, the daughter reassured her mother, “let’s just hear what the doctor says first”. As the conversation progressed, the mother became increasingly agitated and repeatedly voiced her wishes not to receive treatment. She expressed concerns over chemotherapy, which had been a complex process for her to endure previously. The younger daughter on the phone had other concerns, being worried about whether her mother was being used as an experimental subject for a new treatment. After a period of discussion, eventually, the patient grudgingly agreed to use her biopsy, which was previously collected to run other tests, for genetic testing under the elder daughter’s encouragement.

This case illustrates the complexity of decision-making in medical settings and how different stakeholders contribute to the decision-making process for a patient. In bioethics, we always discuss the topic of autonomy. As a conscious, competent adult with good mental capacity, the

patient, in this case, should be able to give informed consent, even if the decision appears to be against her best interests [1]. According to the principle of autonomy, the doctor must provide accurate and complete information on the available treatment options, including their risks and possible complications. In contrast, the actual decision of whether to receive the treatment lies in the hands of the patient. Therefore, although the patient's decision may conflict with the principle of beneficence, the doctor's role is relatively straightforward in this case that is, to respect the patient's wishes.

The actual complexity of such cases is that decision-making rarely involves the patient alone. In this case, family members were involved, each with their agendas and preferences. When we look at the situation regards to medical decision-making in Hong Kong and the degree to which family members are involved in medical decision-making, it lies on the spectrum between that of Western countries, where a more individualised approach is adopted, in contrast to that of Mainland China, where the family may take a large role in decision-making [2]. In Hong Kong, family members often actively participate in the decision-making process, particularly in cases pertaining to elderly individuals, owing in part to the culture of Confucian family values, such as filial piety, being deeply rooted in our community [3].

These beliefs may play a greater role than we realise in various medical decision-making, and healthcare professionals need to understand how these beliefs and values can be translated in discussions related to healthcare delivery

In a 2019 study on organ donation conducted in Hong Kong, 22% of respondents who were indecisive or refused to donate their organs attributed their decision to objections from family members [4]. In comparison, only 56.4% of respondents said they would support a family member's decision to donate their organs. Other studies identified filial piety being a prevailing reason against organ donation, which states that a body should be taken good care of as it is a gift from our parents. An intact body should be maintained with respect to our parents and ancestors [5]. Although, not in direct conflict with the principle of autonomy, it is interesting to contemplate how familial involvement could hinder patients from practising their own decision.

To look at another aspect of medical decision-making, the validity of advance directives has also caused disputes between family members and doctors [6], which remains a significant obstacle being tackled. Particularly for advance directives made outside of the Hospital Authority, families and doctors may cast doubt on its validity. In cross-checking for clarification, doctors must continue providing life-sustaining treatments, which might possibly lead to unnecessary suffering against the patient's wishes, thus violating the principle of non-maleficence. Families, in general, wish to uphold beneficence and protect patients' best interests, be it under the emotional burden that allows life-sustaining treatments to be withdrawn is against filial piety or the families not knowing about the wishes of patients. At the same time, doctors, on the other hand, have to uphold both beneficence and autonomy.

In another sense, the situation could be further complicated if family members request doctors to refrain from disclosing their condition to the patient. Not only will doctors enter an ethical dilemma, but it also increases the difficulties of initiating discussions about advance directives with the patient [7]. In the case that the patient appropriately communicates their thoughts to family members, when the family members are better informed and have greater respect for patient's wishes, disputes and unnecessary suffering against the patient's wishes could be better prevented. This is why some valid approaches put forth is initiate discussion on advance directives at an earlier stage and encourage patients to talk with their families before signing the advance directive, although respecting the patient's wishes if they are against including their families in the discussion.

It is inevitable that healthcare professionals will encounter cases where family members are involved in medical decision-making. An understanding of the above could help to facilitate a doctor's decision on when and how to engage in appropriate discussions with patients and their families, knowing what the family's concerns are, and can also help to address changes in healthcare policy-making so that the cultural considerations of Hong Kong are factored in. For example, the public health system has responded to the issue of family objections by encouraging active discussion between donors and their family members. As complex as medical decision-making is with multiple stakeholders involved, a doctor must never forget to respect the patient's wishes.

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ASSISTED REPRODUCTIVE TECHNOLOGY: IS IT ETHICAL AND PRACTICAL?

TONG WAH LEUNG, M25

Recently, the second reading of the bill regarding assisted reproductive technologies (ART) occurred at the French Senate, echoing President Macron's election manifesto. Back in February, the Indian government also approved the use of ART by infertile couples [1]. It is worth noting that the market size of ART will grow by approximately 0.6 billion albeit the COVID-19 pandemic [2]. This is likely due to the increased number of governments passing laws for citizens to benefit from ART. But is ART moral and practical in the first place? What are the risks and side effects of undertaking ART?

Assisted Reproductive Technology

To commence with, what is ART? It is the combination of a few techniques, such as in-vitro fertilisation (IVF), intracytoplasmic sperm injection (ICSI), ovarian induction and artificial insemination [3]. As such, surrogacy can also be seen as an ART. ART aims to help couples who have infertility issues. The cause of infertility is vast and may be due to gynaecological and lifestyle factors, as well as an increasing individual preference towards prioritising careers over families [4].

Coercion in Commercial Surrogacy

While some people treat ART to benefit individuals and couples suffering from infertility, some say it can lead to the commercialisation of reproduction [5, 6]. I would say it depends on what the couple or the person chose. If it is to purchase sperms or eggs from another individual or even arrange a commercial surrogacy, this is a trade for another's body parts. Body commodification is ethically problematic.

Furthermore, commercial surrogacy will involve other serious ethical issues, especially for poverty-stricken women, such as in Ukraine. One commercial surrogacy can already earn them more than eight times the average annual income of around £15,507, around HK$140,666 [7]. Some may say that as long as there is enough monetary compensation, it would not involve

ethical issues. But does monetary compensation completely rule out the possibility of coercion? Suppose a person has no other way to make ends meet but to engage in commercial surrogacy. In that case, this is an economic needs-based coercion, not to mention coercions related to social strata. They may not be voluntary participating in commercial surrogacy for altruism. If there are no other choices, it is not voluntary [8]. And they are not free from other sufferings, such as being exploited by agents (e.g. they may live in a substandard dormitory). Sometimes if there is a miscarriage, the monetary compensation may not be disbursed [7]. Apart from monetary exploitations, surrogates can also experience emotional distress[9]. Pregnancy traditionally is a journey often experienced by a couple, the partner would take care of the pregnant wife and provide emotional help throughout this time. But if surrogacy became a commercial, cold-blooded process, not done out of love, motherhood and care, antepartum depression could occur. So, the mental well-being of surrogate mothers could be overlooked. So commercial surrogacy could be a complex ethical issue.

Suppose it is to purchase the use of a technology or a technique, like IVF, applying to the couple's embryo and sperms and uterus, it is not commercialising reproduction, but a channel to assist reproduction, providing that this is to compensate for infertility but not for trivial reasons like avoid the unfavourable body shape changes. This could include gaining pounds, stretch marks on the abdomen, etc [10]. Utilising ART for trivial reasons other than assisting reproduction deviates from the original purpose of ART - to treat infertility trying to avoid these unwanted effects could be futile as when surrogacy is applied, the biological mother evaded from those effects. Still, the surrogate mother had to take them. Moreover, as mentioned, surrogate mothers may be suffering from emotional problems or even postpartum depression because they endured the journey of pregnancy. Still, eventually, the baby she gave birth to does not belong to her [11]. This feels like a terrible loss, as if all the care and effort invested is in vain. But such a feeling would not be experienced if no surrogacy was applied, as you can take care of your baby after giving birth to it.

All in all, there is still someone who suffered from the effects due to the pregnancy. It is just transferring the harm to someone else with monetary compensation. It is futile trying to avoid unfavourable effects due to pregnancy. Thus, it is not morally permissible for fertile couples to contract pregnancy with commercial surrogate mothers. But if assisting reproduction is the only purpose, it is just buying services to attain health but not body commodification. Thus in this perspective, ART may not be unethical.

Disposal Unused Embryos

ART would confront a more severe ethical issue in selecting and disposing of the embryos [12]. Take IVF and ICSI as examples. The efficacy is low, as only 1 to 2 embryos are selected out of a pool of around 10 to 12 embryos. Most commonly, the remaining embryos are discarded or used for experimentation. Or the embryos can also be

cryopreserved for later use, such as donating to another couple with irreversible infertility. What first comes to my mind is that if we invite participants for clinical research, informed consent is a must [13]. But there is no way to obtain informed consent from the embryo. Does it mean that it is morally correct to select unused embryos for experimentation?

Embryo adoption is another choice, though problematic [12]. Imagine you are considering having a child or two, but you and your other half are irreversibly infertile for some reason. As mentioned above, you are given two options: IVF and adopting the unselected embryos from another couple who opted for IVF. If you can afford both, which one would you choose? The former. Choosing the latter inevitably produces a feeling that you are to select substandard embryos to take care of the consequences left by other couples, even if the difference between chosen embryos and remaining embryos may not be discernible. If no one wishes to adopt the remaining embryos, it is either used for experimentation or stored until it is time for discarding. So the alleged solutions can still be unethical, despite being commonly used. Nonetheless, IVF is the most commonly used technique compared to other ART counterparts. [14] If the use of ART continues to increase, these ethical issues have to be resolved first.

Harms on the Embryo and Maternal Health

Furthermore, there could be more health risks for the selected embryos than those naturally conceived, IVF or ICSI. For example, cardiac defects and low birth weight may be more common. These risks could be due to multiple factors such as the artificial manipulation of sperms and eggs [12]. But these problems are less cumbersome relative to the aforementioned ethical issues. First, we should make sure if the use of IVF is unavoidable for the couple, then reinforce the education on caregiving.

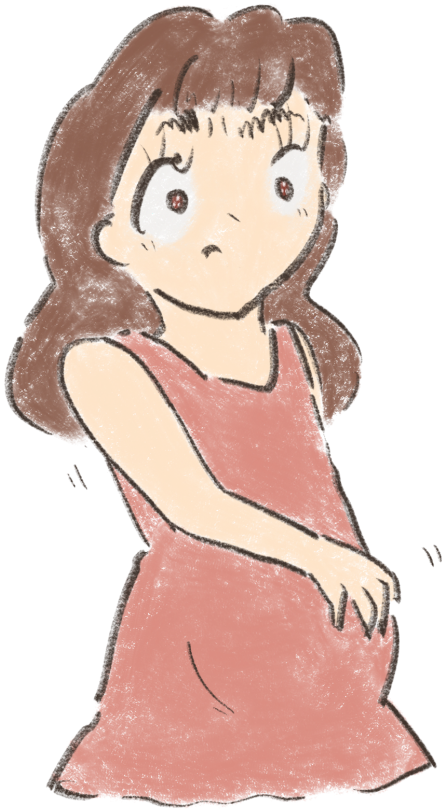
Apart from considering the embryos, maternal health is also worth noticing. Research shows that diseases like gestational hypertension and diabetes may occur due to pregnancy assisted by ART. Also, more and more women have planned to be pregnant with the help of ART. Some of them are of advanced age, which is associated with risks for themselves and their babies. The women would have higher risks of miscarriage, gestational diabetes, etc. While for the foetus, the chances for chromosomal abnormalities like Down Syndrome [15]. Even though it is worth celebrating that older women can successfully conceive with the help of ART, we should not overlook the underlying risks.

Implications on Parenthood

Last but not least, there are also ethical issues and practical issues regarding same-sex marriage worth mentioning. As mentioned, the French Senate passed the second reading of the ART bill. Notably, they hoped to assist unmarried individuals or gay and lesbian couples in pursuing parenthood with ART, which the law initially only allowed infertile heterosexual couples to utilise ART. As aforementioned, if the ART is originally for assisting infertile couples, should fertile homosexual couples be allowed to purchase it? Or should they adopt a child?

Is it morally permissible to allow them to access ART?

My opinion would be that we should not deny homosexual couples to use of ART. Think about what infertility means, it means being unable to produce a child. Homosexual couples, even if they can be fertile and can produce a child with another heterosexual partner, they cannot do so with a homosexual partner. Thus, homosexual couples have a very similar situation as infertile heterosexual couples. And this is irreversible if homosexual couples are not going to switch to a heterosexual partner. So, by definition, they are not infertile. But in fact, homosexual couples are incapable of producing children. They also have the right to attain parenthood.



Of course, quite a lot of religious beliefs only allow heterosexual couples. But in my opinion, a civilised society is one in which different views can coexist, not that there is only one opinion circulating. And the point is, no one can choose to be homosexual or the other way round if there is no voluntariness behind it, then there is no possible morality. So, we should not prohibit same-sex couples from choosing ART. However, not every country followed the same way as France and enacted laws to ensure this right. Thus, this would involve legal issues as well. If such rights are not backed by a robust law system, conflicts would inevitably arise.

From a macroscopic perspective, this may rewrite the definition of parenthood, as traditional parenthood involves a father and a mother. Still, the new definition may also involve two fathers or two mothers. Still, there has to be a delegation of tasks among the two members. The function of parenthood would not change much. It is just that the implementer is different.

Apart from such pressing ethical issues, since unmarried individuals are allowed to apply for ART in France, some children would inevitably grow up in a single-parent family household. Even though this is not unethical, there are some concerns that the children may face distress due to the absence of a fatherly or motherly role model. The loss of encouragement and affirmation from a father or mother figure was critical, especially during adolescence [16]. Such bills may indirectly lead to the emergence of children brought up in such an environment.

Besides, a single parent may face financial difficulty. As they have to take care of children and at the same time manage their work, they may have to avoid jobs with long working hours. The chances of multiple births are 40% if the pregnancy is IVF-assisted, higher than that of naturally conceived [17]. It is significantly more demanding for a single woman to make a living for a 3+person family. These are the side effects that require management. Thus, if the government decided to enact a law for single women or even men to assess ARTs, better family planning may have to be complemented to tackle the insufficiencies. Since individuals are planning to apply for ART without a partner to provide financial support, they need to have an approximate idea of how financially demanding it would be to raise a child alone and whether they can sustain it.

Conclusion

The above are just some of the issues stirred up in my mind when I encountered this issue. I also can't help myself imagining if we continue to develop ART, will selections of first-rate embryos be a trend? We may think that the allegedly first-rate does not differ much, but as the usage of ART becomes more and more common, the differences will accumulate as if natural selection occurred. The best of the best may be significantly better than average babies. What about designer babies and gene editing? Are we slowly paving our way to the futuristic and cruel world depicted in the dystopian novel Brave New World, where humans are categorised into five types, with different intelligence and physical strength?

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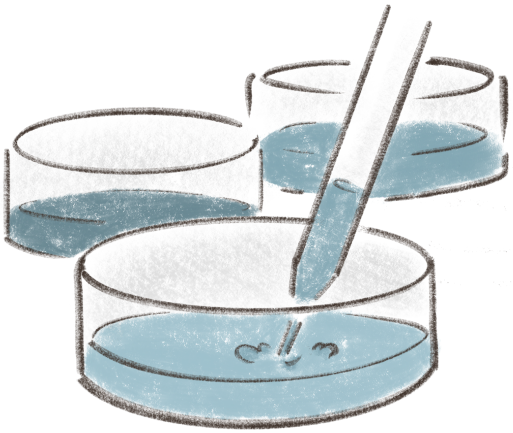


IS ABORTION ETHICAL?

A QUESTION WITH NO ANSWER

LAW WING KIU STEPHANIE, M25

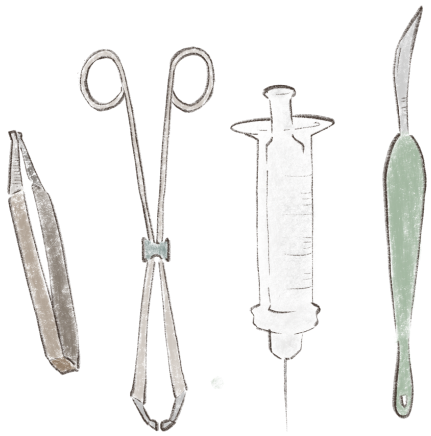
Abortion has long been a controversial topic and has undoubtedly become one of the most debatable issues of modern times. In short, such a dilemma is inevitable, resulting from a conflict between women's autonomy and the fetus' right to live. "Pro-life" advocates assert that abortion is morally impermissible, while supporters of "pro-choice" declare abortions as ethically acceptable. Every year, both camps take to the streets, hoping to convince those from the other side; Yet, with the every passing year, each side remains perplexed as to why their slogans have failed to appeal to their opponents.

To understand why this moral dilemma has long been unsolved, perhaps one should ponder on the definition of a "person", as well as when the beginning of "personhood" ought to be marked.

Scientifically speaking, a new life begins at the point of conception: The time when the ovum meets the sperm, with the fusion of two pronuclei to produce a zygote. At this point, the egg and sperm cease to exist as individual entities but as one unit. Such a long-rooted predicament would fail to subsist if this scientific definition were adopted. Interestingly, different "pro-life" advocates conceive the arrival of "personhood" incongruously, as do "pro-choice" advocates. Some believe the appearance of brainwaves that declares one as "human', which takes around 40 days to be detected. Others favour the proposition by Mary Anne Warren [1] - an American writer and philosophy professor-, who defines a human being as one with some degree of cognitive behaviour, including but not limited to consciousness, reasoning, self-motivated activity, the capacity to communicate and self-awareness. With these theories, one should only be considered the human right to live after birth. Still, others assert that the acquisition of sentience, rationality, or even the resemblance of a human's appearance should be considered personhood. It is, in fact, rather ludicrous for people to argue over the morality of abortion when a distinct demarcation of when life begins has yet to be agreed on. Regardless,

putting that aside, all these above criteria share one common insight into the views of "pro-life" standers: A definite indicator has to be met for one to be considered "human".

At first glance, using a definitive criterion to delineate the onset of "personhood" seems unproblematic, yet, to give a more profound thought, does ambiguity exist? Let us look into the criteria stated by Philosopher Mary Anne Warren to define "personhood". In her essays, she suggested that the ability to experience pain (consciousness), the capacity to solve new and relatively complex problems (reasoning), and the potential to communicate are all prerequisites for determining whether a being can be said to be a person and hence bestowed with moral rights. I will argue with the following example.



Consider a patient who has just experienced a traumatic traffic accident and is in a persistent vegetative state. Being alive and in a profound state of unconsciousness, this patient is unable to move, nor is he or she able to respond to the environment. Likewise, the patient is at a loss for words, has no sensory perception and is incompetent in problem-solving. Had one proposed ill-treatment of the patient or to take action to an extreme by killing him or her, the arousal of objections is equally comprehensible and understandable. The stirring of human emotions is conceivable and is linked to the patient's identity as a human being: An individual entitled to human rights. According to Mary Anne Warren, both fetuses before birth and comatose patients lack the criteria for "personhood". To consider the latter a human being entitled to moral standing but the former not a full-fledged member of the moral community is, to all intents and purposes, a preposterous suggestion. In fact, given our current situation when even philosophers have yet to conclude how the emergence of "personhood" had better be marked off, it is true to say that all heated debates on abortion, albeit galvanising, are practically futile.

Another enthralling point from "pro-life" advocates that has caught my eye is their argument on the potentiality of a fetus. Anti-abortion activists are of the opinion that all fetuses are potential human beings. Given that all human beings are entitled to human rights, including the right to live, unalienable rights should also be granted to fetuses way before birth. Fetuses are indeed potential human beings that cannot be denied. Yet, does this "potential" immediately confer such a legal right to an unborn child? Let us consider this from another perspective. In Hong Kong, legitimately, only 18 years old or above have the right to vote. To put it in the words of "pro-life" advocates, those under 18 are potential voters. Still, it is not until they have reached the age of 18 can they participate in ballot activities. Potential properties are not the same as actual properties, nor are possible rights and fundamental rights.

This shows clearly that one's potential differentia should not, and cannot, be necessarily translated into one's right. This is uniformly applicable to the argument, where full rights of a person should be granted to a fetus due to the fact that a potential person stems from a potential newborn.

Regardless of one's view on abortion, it is of prime importance for us to remember that the beauty of bioethics lies in the balance of ethical, social and legal issues arising from the medical realm. It is natural for the four basic principles of health care ethics to be contradicted in various cases. Ideally, for a medical practice to be considered "ethical", there needs to be an appropriate balance of the four principles. As far as perplexing and controversial issues are concerned, this is highly unlikely. Even if abortion was legalised across nations, it is difficult, if not impossible, to determine the most appropriate time, both legally and ethically, as to when abortion should and can be performed. Other factors may override the right to life of any being. Three of which may be less arguable, namely when the mother's life is put in danger during pregnancy, when the child's life is severely at risk due to genetic defects, or when the conception is, sadly, a result of rape. Moving on, other reasons for justifiable abortion may be more dubious. Whether the inconvenience of pregnancy to the mother ought to be considered a lawful factor to outweigh a right to life would remain questionable.

Similarly, other reasons, like the family's financial hardship, or the women's fundamental freedom to determine the use of her own body, may be frivolous for some but agreeable for others. If truth be told, flexibility is the key to avoiding any blind spots. Consequently, considerations in determining the virtues and righteousness of abortion should never be taken from a single perspective but rather from mutual understanding and profound discussion.

To kill or not to kill, that is the question. The biggest dilemma is improbable to be concluded using bioethical principles. It is far-fetched to covet a time when the world can agree on such a sensitive issue. Is it cruel to the unborn child to have his/ her right to live stripped away by the legalisation of abortion, or it is more savage to hamper the mother's autonomy to make decisions about her body? There is, perhaps, not a conclusive answer to that, as in most bioethical matters in question, but it is undoubtedly something worth mulling over.

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AN EMPTY CRADLE

CHAN CHING KWAN KENNIS, M25

"She is a mother"

She tries her very best to reach out for her son. The baby is wrapped in a blue blanket. She unwraps the blanket carefully as if it was a fragile porcelain doll. Her finger moves across his little button nose, his sweet lips, and eventually his tiny palm.

There is no grasp of her little boy that she can feel. All she can feel is the warmth of his skin, fading, no matter how tight her embrace is. She is surrounded by the mewling and wailing in the maternity ward, but none of it comes from the boy in her arms. He is a stillborn, a baby born dead.

"She is a mother without a baby"

In less than 24 weeks, everything has changed. It is a roller coaster ride, but an emotional one. She is supposed to be preparing a baby shower, but now she is going to prepare a burial for her son.

But the burial is not scheduled to happen, not to mention the preparation of coffin and mourning, because her son has been disposed of together with other medical waste. No burial is conducted without the body of the deceased.

No birth certificate is issued, and no grave is built for her son as he had never been born. Perhaps the only proof of his existence is the empty cradle, a cradle that he longed to sleep in but never had the chance to.

This is not a story but, unfortunately, the reality for several mothers.

Based on the consensus of the medical profession, "stillbirth" is defined as a baby born without signs of life at or after 24 weeks of gestation [1]. An abortus with less than 24 weeks of gestation is not qualified to be issued any death certificate, medical certificate, cremation permit or cremation order [2]. This includes Form 13 of Cap. 174, also known as a Certificate of Stillbirth, is a prerequisite for a legal burial or cremation.

In 2017, a couple's complaint about abortus handling aroused public awareness. They had previously requested to retrieve their son, who had been born at 15 weeks of gestation but had been rejected by the public hospital [3]. However, before the city shone a spotlight on this issue, Hong Kong's practices in handling abortuses were not humanising. The remains of abortuses used to be regarded as clinical waste. Despite parents' right to take them home, merely 23 out of more than 3,000 cases, from 2015 to 2017, did receive HA's approval to retrieve the deceased bodies [4]. The small number was mainly contributed by the rejection of hospitals. Even if parents were allowed to retrieve their sons or daughters, they would encounter another stumbling block – the Food and Environmental Hygiene Department (FEHD) did not accept the application of burial and cremation services for the fetus of fewer than 24 weeks of gestation.

There were only a few choices left, namely the private cemeteries and crematoria run by religious parties and expensive pet cremation services. While one might find treating the remains as a pet unacceptable, sadly, it was the suggestion a hospital had once given to a grieving couple. Although an abortus is not given any legal identity (a foetus not fulfilling the requirement of 24 weeks gestation is not qualified to be issued Form 13), it is defined as a unique organism with the potential to become a complete human being in the future [5]. Obviously, this classification distinguishes between an abortus and a pet.

What's more infuriating was that unclaimed remains were labelled and disposed of as clinical waste.

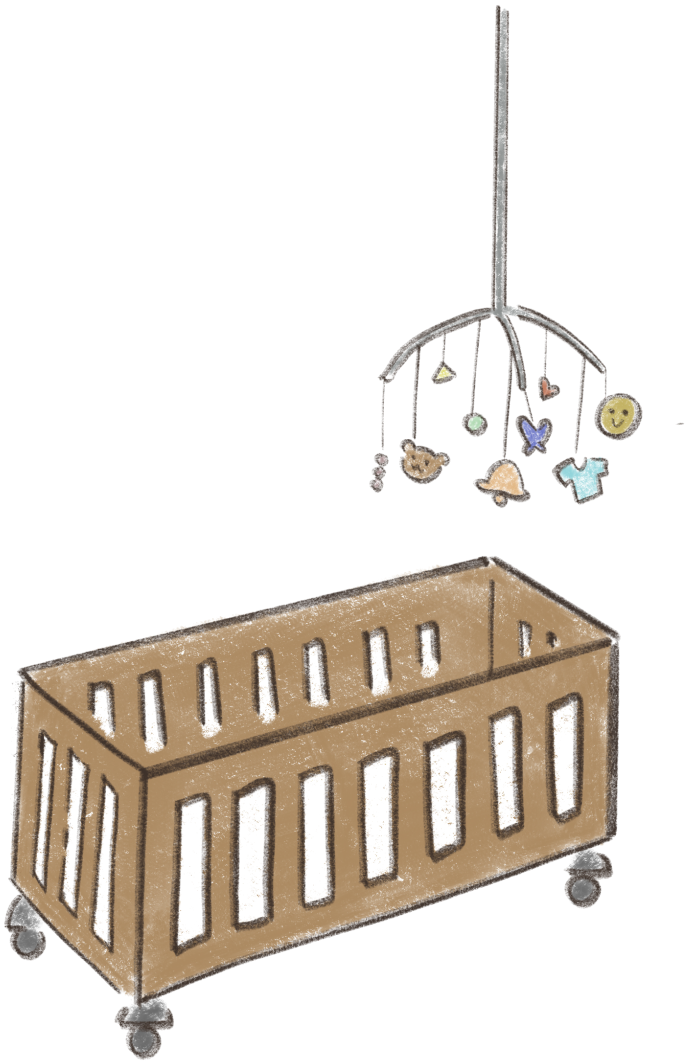
Waste is disposed of because it is unwanted. What about the abortuses? Many are never unwanted, but, on the contrary, they are very much wanted and cherished by their parents. They would even have been taught to walk the first step or to speak the first word, only if it had been permitted by destiny. No one can deny the fact that abortuses were once lives whose kicks and movements had been felt by their mothers. Just because they are not qualified to be defined as stillbirths, that does not mean they are equal to waste. Thus, never should a miscarried foetus be handled in the form of abandoned waste.

Perhaps the question can be changed to “should a mother of an abortus be given the same right of decision making as that of a mother of a stillbirth?”. If the abortus is born before 24 weeks, the remains will be regarded as the hospital’s property, meaning that the hospital has the possessory right to handle the deceased body. Why isn’t the right given to the mother, who had been bearing the fetus for months? It is mainly because the hospital is responsible for ensuring public health and safety in returning remains, and no abortus can be retrieved before remains handling is guaranteed to meet safety requirements.

However, ironically, the health risk of remains handling does not deprive relatives’ right to handling and disposal of dead bodies of people with infectious diseases. They are only advised of measures, including not embalming the remains, but they can still obtain funeral services for the deceased.

If only the risk of transmission of infectious disease is concerned, why is there an unfairness between the handling the remains of a person with infectious disease and that of a fetus of less than 24 gestational weeks? If the hospital returns the dead bodies, which potentially pose a health threat, undoubtedly, the abortuses should also be returned to their parents. They should all be offered equal opportunities to obtain cremation or burial for their loved ones.

Not only is abortus handling affected by the standard of 24 weeks of gestation, but also the regulation of abortion. Regarding Offences against the Person Ordinance, only termination of pregnancies less than 24 weeks gestation are authorised unless it is necessary to save the mother [6]. If the current threshold for defining stillbirth is lowered, the law mentioned above will also be adjusted so that pregnant mothers will face greater difficulties when requesting approval for legal pregnancy termination. Furthermore, never will there be a perfect way to defend the rights of abortuses. Even if the standard is loosened to revise the existing requirements of getting Form 13, there are still unfortunates who fail to fulfil the requirements. The standard can never be adjusted endlessly, and thus it is undoubted.



"Even the smallest of feet have the power to leave everlasting footprints upon this world" – Anonymous.

Although all less than 24 weeks' fetuses are recognised as neither human beings nor stillbirths, the government has made ample improvements on services of cemetery and cremation. Since April 2019, a public cemetery under FEHD, Garden of Forever Love, has started to provide services for keeping abortuses, followed by Cape Collinson Columbarium commissioning in 2020. Apart from the above facilities, Kwai Chung Crematorium will also be established in the near future to cremate abortuses, including the unclaimed ones. These were indeed significant progress compared with the past when miscarriage and abortion were deemed social taboo. Regardless of whether an abortus should be legally classified as human, it is still the beloved baby of parents. There is no doubt that it was once a life that deserves respect and, most importantly, dignity, which is also a core value of humans. It is time for us to defend against social taboo for the dignity of the little angels.

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