EDITORIAL

Ethical Principles in Medicine: A Deeper Reflection on Autonomy, Beneficence, Nonmaleficence, and Justice in Current Medical Practice

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INTRODUCTION

In clinical medicine, physicians must be guided by ethical principles when making decisions about treatments and interventions: to benefit the patient, avoid or minimise harm, respect the patient's values and preferences, and ensure fair access to and allocation of care. Ethical principles are the backbone of medical practice; they uphold patients' rights and professional integrity, support responsible choices in complex situations, strengthen patient relationships, guide medical education, and shape effective health policy[1].

The four core principles of medical ethics–autonomy, beneficence, nonmaleficence and justice–were systematised in 1979 by Beauchamp and Childress[2]. In addition, other important ethical considerations include: i) confidentiality (protecting patient privacy); ii) veracity (truthfulness and transparency); iii) professionalism (maintaining integrity, accountability, and respect)[1]. Together, these principles and considerations form the framework against which contemporary developments in medicine should be assessed.

The landscape of contemporary medicine is rapidly evolving, marked by advances such as AI in triage, CRISPR gene editing, climate-related health threats, and the enduring effects of the COVID-19 pandemic that continues to shape

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health policy. These developments compel us to critically reassess the ethical principles that guide medical practice, examining their scope, hierarchy, and real-world applications. It is essential that these principles not only serve as guiding standards but also provide a robust framework for safeguarding public health. This editorial aims to describe the ethical principles and the current scenario in clinical practice.

Autonomy in an Interconnected World

Autonomy is essential in healthcare, as it upholds a patient's right to make informed decisions about their care. This principle demands that healthcare providers not only obtain valid consent but also respect patient choices, even when they diverge from the physician's perspective[1]. Informed consent is a vital dialogue between the physician and the patient, where the patient, equipped with the capacity for decision-making, clearly conveys their authorisation and preferences. Patients deserve to be fully informed about their diagnoses, health status, treatment options, therapeutic benefits, lab results, and the risks associated with any procedures. Patients are empowered to actively participate in their healthcare journey by prioritising autonomy and informed consent[3]. Thus, respecting patient autonomy requires physicians to provide necessary information for informed decision-making, supporting practices of informed consent, honesty, and confidentiality[4]. It is important to note that the principles of autonomy do not apply to individuals who are not competent to make autonomous decisions, such as infants, children, or those whose ability to act autonomously is compromised due to developmental, mental, or physical disorders[1].

Patient-centred care, grounded in respect for autonomy, helps build trust and strengthens doctor–patient relationships. However, autonomy's focus on informed consent is not always honoured in practice. In a study of Chinese hospital doctors, more than one-fifth reported proceeding with major interventions without meaningful consent, citing paternalistic assumptions that clinicians know best and that patients cannot make rational decisions[5]. Such paternalism is incompatible with patient-centred care. Evidence also shows that respect in care encompasses more than the freedom to make choices: women living with HIV in Florida described respect as including dignity, empathy, and cultural sensitivity[6]. Taken together, these findings indicate that autonomy must be coupled with a broader practice of respect if patient-centred care is to be realised.

Public health emergencies challenge the limits of autonomy. During the first COVID-19 wave, guidance documents from the UK and Ireland emphasised collective responsibilities, such as fairness and reciprocity, over individual preferences[7]. This illustrates that autonomy is not absolute; rather, it needs to coexist with solidarity, especially when individual actions impact communal risk.

Beneficence and Nonmaleficence Reconsidered

Beneficence is acting in the patient's best interest by the physician, including providing effective treatments, preventing harm, and promoting well-being. The principle calls for not just avoiding harm but also benefiting patients and promoting their welfare[8]. Nonmaleficence means "Do no harm." The principle of nonmaleficence requires physicians or researchers to avoid treatments or interventions where the potential for harm outweighs the benefits[9]. Thus, nonmaleficence is closely tied to beneficence, balancing preventing harm and promoting good while safeguarding participants' rights, dignity and autonomy[10]. In practice, clinicians weigh benefits against burdens, avoid disproportionately burdensome interventions, and choose the best course of action for the patient[1]. Nonmaleficence is particularly important and pertinent in difficult end-of-life care decisions such as withholding and withdrawing life-sustaining treatment, medically administered nutrition and hydration, and pain and other symptom control. For example, in end-stage cancer, when chemotherapy is very unlikely to prolong life or improve symptoms, it may be more appropriate not to start further chemotherapy because the burdens of treatment would outweigh any likely benefit.

Beneficence, the principle of acting for the patient's good, now demands a careful navigation of technologies with shifting risks and benefits. Concerns arise with the rise of AI in healthcare applications. While AI support holds the potential for unparalleled diagnostic accuracy, it also risks perpetuating hidden biases that can adversely affect vulnerable populations unless rigorously validated[11]. Physicians need to be aware that the negative aspects of AI might outweigh its benefits. To overcome this problem, experts must consider humanity and ethics when applying AI[3]. In response, the World Health Organization (WHO) has outlined six ethical principles to guide the development and use of AI in health: i) protect autonomy; ii) promote human well-being, human safety and the public interest; iii) ensure transparency, explainability and intelligibility; iv) foster responsibility and accountability; v) ensure inclusiveness and equity; and vi) promote AI that is responsive and sustainable[12]. This underscores the critical importance of transparency and accountability in ensuring that technological advancements truly serve the health of all individuals.

Gene editing intensifies the precautionary nature of nonmaleficence. While it could prevent and even eradicate heritable genetic disease, unintended consequences may hurt future generations, forcing ethicists to weigh uncertain risks against hoped-for benefits[13]. Thus, beneficence and nonmaleficence demand continuous professional vigilance: clinicians must update their competence to evaluate new methods critically while resisting technological momentum when there is inadequate safety data.

Justice Ascendant

Justice in healthcare demands a steadfast commitment to fairness in allocating resources and treatments. It necessitates that every patient is treated equitably, free from discrimination. It requires fair processes and non-discrimination in access and allocation to cutting-edge medical technology, regardless of socioeconomic background or geographic location. Every patient deserves unwavering respect and fair treatment, regardless of socioeconomic status, caste, gender, religion, or nationality[9]. This principle is particularly relevant in public health policies, such as equitable vaccine allocation during a pandemic or prioritising care based on need, not social status[14]. For example, during the COVID-19 pandemic, Italian triage panels prioritised transparency and benefit maximisation above personal choice[15]. Fair processes, transparency, and the protection of the most disadvantaged are given significant moral importance, demonstrating that distributive justice is not merely an abstract aspiration but a critical standard for life and death.

Global warming is one of the main public health issues in today's world due to its effect on the environment, causing humanitarian crises[16]. However, addressing the climate-sensitive diseases and humanitarian crises is not just an environmental issue but a matter of justice. These health challenges disproportionately impact low-income countries and vulnerable populations in higher-income nations. Therefore, climate change mitigation and adaptation policies must be crafted and executed with a strong commitment to justice and equity[17].

CONCLUSION

Autonomy safeguards self-determination, beneficence and nonmaleficence direct clinicians towards effective and safe care, and justice insists that benefits and burdens be distributed fairly. In contemporary medical practice, these ethical principles are neither obsolete nor sufficient in their twentieth-century form. Respecting people now includes dignity, cultural sensitivity and environmental responsibility. Doing good and avoiding harm require critically appraising new technologies and acknowledging healthcare's own ecological footprint. Justice demands transparent, equity-driven processes from local wards to global health. By contextualising autonomy, modernising beneficence and nonmaleficence, and elevating justice, the medical field can navigate ethical complexity while maintaining its ethical foundation. The task is to translate these refreshed principles into everyday practice, sustaining public trust and upholding human dignity in a rapidly changing world.

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