**An Ethical Appraisal of Cosmetic Surgeries by applying the Concept of Medical Futility**

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**Abstract**

The challenging concept of medical futility has been in focus in recent decades, and many articles have been published on it. The concept of medical futility was initially used in the context of the end-of-life, but today, it has claimed a wider scope. For instance, the rapid growth of the domain of cosmetic surgeries in many societies has obliged clinicians and ethicists to pay more attention to its ethical implications. Are cosmetic surgeries performed solely on aesthetics grounds or for the sake of social acceptance? Although the patient's autonomy has been granted a high stature in modern medicine, but, in many cases, their demands conflict with the goals of medicine. New challenges arise out of controversial opinions between physicians and patients. In this essay, we will examine whether there are futile treatments in the field of cosmetic surgery. If there are any, what authority shall determine them? How do major philosophical and ethical perspectives position regarding futile interventions? And finally, we will explore some solutions to avoid futile treatments.

**Keywords**

Medical futility, futile intervention, surgical ethics, cosmetic surgery, the patient-physician relationship

**Medical Futility: A Literature Review**

Multidimensional nature of this issue required us to search both bibliographic databases of humanities and philosophy, along with biomedical data banks.

To prepare this review article, we searched literature through international online sources such as MEDLINE, Web of Sciences, Google Scholar, Stanford Encyclopedia of Philosophy and PhilPapers, in addition to Iranian online scientific databases such as Iran Medex, SID, Magiran and Comprehensive Portal of Humanities[[1]](#footnote-1), As well as some library sources. Keywords of medical futility, futile treatment, ineffective treatment, medical decision making, the doctor-patient relationship, enhancement cosmetic surgery, ethics‏ , and aesthetics, were used.

Papers published after 1975 were included initially. The abstracts of more than 1000 articles were read, and after the exclusion of irrelevant ones, 203 papers were selected for further study.

**Introduction**

It is difficult to define medical futility, but as a working definition, one may call a preventive, diagnostic or therapeutic medical intervention futile, on condition that it has no benefit for the patient (1). Although the idea has surfaced since the 1960s, there's an aeonic background (2). Hippocrates advises his students that whenever the extent of a patient's illness is far beyond available treatments, they should not expect to overcome it (3). At that time, physicians were free to decide, and patients' preferences had a minute role in medical decision making (4). In recent decades, patients' autonomy has claimed a considerable credit, due to the emphasis put on it as a major patient right, at least partly by social forces and philosophical contributions (5). As a result, the patient-physician relationship has transformed from a paternalistic model to a partnership model (6). The principle of autonomy asserts that the patient has the capacity to choose, and the right to determine what is done with her body (7). Far-reaching advances in medical technology have led to many realistic and unrealistic expectations, and doctors are sometimes faced with demands that are professionally futile, with no effect and benefit (6). Among medical interventions with staggering expansion are cosmetic surgeries. Just in the United States, Cosmetic surgeries are performed twice as much, compared with two decades ago, to the total number of two million (8). The Islamic Republic of Iran is titled as the capital of the world's rhinoplasty (9) (10) (11). Some psychologists recognize conditions like low self-confidence and low self-esteem, as the main psychological factors that lead people to tolerate pain, suffering, and complications associated with numerous cosmetic surgeries (12). Among important social factors that affect people's attitudes, one may note the evolution of cultural norms, ensuring financial ability, increasing consumerism in developing societies, complexities of urban life, new developments in surgical technology, and maybe most notable of all, the influence of mass media (13) (14).

Cosmetic surgeries can be viewed through the insights provided by the concept of medical futility (15). Cosmetic surgeries are those plastic surgeries which are performed solely on aesthetics grounds or for the sake of social acceptance. One should not confuse cosmetic surgeries with reconstructive surgeries, since the latter relieves pain, or enhance some physiological functions (16). In this paper, we shall exclusively deal with cosmetic surgeries and ask whether there are futile treatments in this field. If there are any, what authority shall determine them? How do major philosophical and ethical perspectives position regarding futile interventions? Finally, we will explore some solutions to avoid futile treatments.

**Defining Medical Futility**

The word futilis is from Greek mythology in which trying to draw water in leaky sieves is condemned to failure (17). The Webster’s definition of futility is “a useless act or gesture” (18).   
There is not an all-inclusive definition for futility in medicine, but one of the best-known conceptions is due to Schneiderman. According to him, a futile medical intervention is one with an unacceptable probability of achieving a therapeutic benefit for the patient (19). For Schneiderman, medical futility has both quantitative and qualitative aspects. Quantitative futility is established when a treatment doesn't result in the desired outcome in recent 100 cases. He considers this aspect of medical futility as an adaptation of famous Hippocrates instruction to his pupils that providing futile treatments in such conditions is evidence of co-occurring ignorance and insanity (19).

Qualitative futility is a treatment which falls short of supplying a satisfactory quality of life for the patient (20). Or a treatment that preserves the patient in the unconscious state, or is incapable to free her from intensive medical care (5). This concept is adapted from Plato's dialogue The Republic, in which Asclepius, the deity of medicine, is mentioned as not treating and prolonging misery life of people with very severe diseases (18). Furthermore, some experts place qualitative futility into two categories: first, when the disadvantages of treatment overweigh its benefits, and second when the treatment is of little value for patient's quality of life, so remaining alive doesn’t worth it (21). It must be noted here that providing care and relief for patient's pain and suffering, is never futile and should continue at all costs.

Besides these common conceptions, other definitions of medical futility have also been proposed. For instance, Youngner In 1988 distinguished between two different types of medical futility:

Physiologic futility: a treatment which is unable to meet the physiological goals of the physician. Here, the physician and the patient agree with the goal of treatment, but they argue whether treatment can achieve that goal.

Normative futility: a treatment which can fulfill the goals of the patient or her surrogates, but these goals are worthless from physician's point of view. Here, the dispute is on the value of the goals of the patient or her surrogates. Many commentators consider these two types of futility, equivalent to quantitative and qualitative futility, respectively (22).

There also exist other definitions of futility like futility in fatal conditions, teleological, value-based, etc., that we do not explore here (23).

**Common misconceptions about Medical Futility**

There are concepts very similar with medical futility yet distinct enough, that encompass different considerations. We need to distinguish them carefully from medical futility. Although this may not be entirely achievable, some conceptual clarification is mandatory:

1. Futility does not apply to cases which are theoretically impossible. Likewise, cases that are theoretically possible, but there is no such technology to render them, are outside the domain of medical futility (18).
2. A treatment which may be effective in rare cases or under peculiar conditions is not futile (18).
3. One should be careful not to confuse futility with despair since the former is based on the objective probability of a particular outcome, but the latter is a psychological attitude based on emotions.
4. Although some may not agree, many experts make a distinction between futile treatment and irrational treatment. The irrational treatment is beneficial for the patient, but it is avoided due to high expenses or lack of resources. But futile treatment, has no benefit for the patient, regardless of expenses or resources. Moreover, whether a particular treatment is futile or not, is decided in the clinical context and for the specific individual, but the irrationality of treatment is decided on a large societal scale (24)(25)(26).
5. Experimental interventions which are still under investigation and lack sufficient evidence so far, should not be mistitled as being futile (1).

The idea to note here is that futility is dependent on values and empirical evidence. It is expected that some futile treatments become beneficial in the future and vice versa.

Even for a particular patient, a particular treatment may be futile under certain circumstances and beneficial elsewhere. For instance, maintaining a device-assisted life of a patient with end-stage cancer is futile whenever it is just delaying the process of death and complicating her passing. But if a close relative is on the way to see her one last time, treatment should not be discarded apathetically (19).

**Futility in cosmetic surgery and the goals of medicine**

After acknowledging the definitions of futility, we now proceed to consider cosmetic surgeries according to these definitions. Here we aim to explore instances of futility, by appreciating the goals of medicine and specifically the goals of cosmetic surgery.

Marcum discusses two different ways of defining the goals of medicine. In the biomedical approach, patient is viewed as the collection of various organs. Health is equivalent to normal physiologic functioning, and the goal of medicine is to restore function of organs. Normal functioning is determined by statistical distribution of physiologic variables (28)(29). In the humanistic approach, patient is an entity of a unified mind and body. Here, health encompasses not only normal physiologic functioning of organs but also the patient's wellbeing as a whole. This wellbeing is dependent on an individual's values (30). Now according to the biomedical approach, one must assert that if cosmetic surgery is aimed at aesthetic standards or statistical normality of society, treatment is not futile. With any other goal, treatment would be futile, e.g., when a short patient requests an increase in height for 20 centimeters. This futility is of physiologic type. Also, if the goal of surgery is to approach to aesthetic standards or statistical normality of society, but the evidence for success probability is less than one percent, treatment is again futile. For example, to try to reduce half of the body's weight by doing liposuction in a patient who weighs 200 kilograms is futile on this account. This futility is of quantitative type. It is important to note that due to the value-ladenness of qualitative and normative futility, there are no instances of them in biomedical approach.

Before discussing futility in cosmetic surgery by the humanistic approach, it is better to appreciate the goals of medicine that Callahan has based upon the humanistic conception of health. He mentions four categories of goals of medicine

"1.The prevention of disease and injury and the promotion and maintenance of health

2. The relief of pain and suffering caused by maladies

3. The care and cure of those with a malady, and the care of those who cannot be cured

4. The avoidance of premature death and the pursuit of a peaceful death "(31).

Among these goals, the promotion of health seems more relevant to the field of cosmetic surgery. The reason is obvious; cosmetic surgery is not performed for the restoration of a malfunctioning organ (32).

According to humanistic approach, futile treatments fall into these categories:

1. Physiologic futility
2. Quantitative futility
3. Qualitative futility
4. Normative futility

(Although some of the scholars consider physiologic futility the same as quantitative futilities and normative futility the same as qualitative futility).

Physiologic and quantitative types of futility were discussed earlier. 3- Qualitative futility can be further divided into two types:

3.1- When a treatment is probable, but its outcome does not lead to patient's value-laden goals. For example, a patient with a psychiatric disorder may urge the surgery because of her psychiatric disorder and not because of her appearance or other bodily features, e.g., someone with BDD[[2]](#footnote-2) requests a rhinoplasty surgery (33). Although, many argue that if the psychiatric disorder is caused by a patient's appearance, then the treatment would not be futile (34).

Another concern is about induced demands. There are many who desire beauty surgeries, solely under the influence of widespread media programs, advertisements, movies, etc. Here the freedom to decide and autonomy is manipulated and restricted by intense mass media effect. Again a subtle caution is required here because many don't regard a cosmetic surgery futile if it is in accordance with social values.

3.2- When the harms of cosmetic surgery are more significant than its benefits, e.g., liposuction in a patient with advanced heart failure and coagulation disorder. Some may argue that the benefits of such beauty surgeries should be weighted by patient, and not her physician. Despite this, it seems plausible to hold that the doctor can come to a reasonable estimation of the benefits and harms of the operation, by considering previous surgeries in similar cases.

4- Normative futility occurs when the goals of patient are achievable, but that goal is of little value to the physician. Typical examples include the request for skin wrinkling by some feminist groups or implanting an ear on the forearm for artistic motivations (35) (36).

If an intervention cannot be classified in any of the above categories, then it does not seem futile, like a person who wishes to amputate her extra finger.

**Futility in cosmetic surgery and ethical theories**

Medical ethics utilizes different approaches in dealing with ethical situations. Principalism, Virtue theory, Duty-based theories, and Consequentialism are among the most prominent approaches. We shall concern futility in cosmetic surgery, by looking through the lenses of these approaches.

**1. Principalism and Futile Cosmetic Surgery**

This approach grounds ethical decision making, on some core ethical principles. The best well-known theory of this kind is due to Beauchamp and Childress (38). They proposed the principles of autonomy, nonmaleficence, beneficence, and justice:

**1.1 Principle of Autonomy**

In modern medicine, autonomy, which calls for respect for the patient's independence and freedom, is regarded as one of the indispensable elements in the patient-physician relationship. This principle can be traced back to Stuart Mill, who held that the only purpose for which power can be rightfully exercised against one's will, is to prevent harm to others. One cannot assume an action immoral when it just harms the acting individual (39). Lack of sufficient resources should also be considered here. But to what extent the autonomy of the patient should be protected? Is the physician under any obligation to perform all the requested-by-patient interventions? One of the constraints on patient's autonomy should be put on her demands of futile cosmetic surgeries. The reason is that the autonomies of both parties should be respected in a patient-physician relationship, not only the autonomy of patient. A physician is the one with expertise in the field of medicine, and she is the one with responsibility for possible complications on the patient. It follows that the doctor needs the freedom and autonomy, to refuse futile cosmetic surgeries, and to provide only beneficial treatments by her evaluation of the situation (40) (41) (42).

**1.2 Principle of Beneficence**

Beneficence is the providing of comfort and wellbeing for others. In medicine, it consists in performing interventions that benefit patients (39). Since there is no benefit in doing futile cosmetic surgeries, they cannot be justified by the principle of beneficence.

**1.3 Principle of Nonmaleficence**

According to this principle, the doctor is ought not to harm the patient. From a minimalist point of view, even if the physicians are not obligated to benefit patients, their least responsibility is to avoid harming them. Therefore, physician should choose only modalities with some benefits more excellent than their harms. Treatments with great harm to life, health, economy and time, and little benefit, are not justifiable by this principle (43)(44). Therefore among cosmetic surgeries, performing those which are futile, are morally wrong by the principle of nonmaleficence.

**1.4 Principle of Justice**

Justice is traditionally defined by the Latin tag ‘suum cuique tribuere’ – to allocate to each his own. In medicine, this concept specially refers to the fair distribution of scarce resources. Never in a health care system, there are infinite means regarding financial affordability, medical facilities and equipment, and active, skilled human resource (45). To grant limited resources to futile cosmetic surgeries is to deprive patients who are in real need for these resources. Providing futile treatments pushes health care system into injustice and inefficiency. So the scarcity of resources is itself a reason for considering a medical intervention futile, for a particular patient (39).

**Considerations**

1) Scofield in 1994 and Susan Rubin in 1998 held that the introduction of the concept of medical futility is an effort by doctors to increase their power against patients (46)(47). Also, earlier in 1988 Wulff stated that the concept of futility has been proposed in reaction to the enhancement of patients' autonomy and that doctors are trying to return to their previous control over patients (48). In response, Schneiderman rejects the supposition of there being a battlefield between patients and doctors over decision making, but the problem is opponents' failure to appreciate the central place of the principle of beneficence in medicine. It is the physician who knows which treatment is beneficial to the patient, so she should decide which treatment to offer and which one to lay aside (49). One must also act according to the principle of beneficence in cosmetic surgeries. If a physician realizes that a treatment is futile, she should refuse it.

2) In 1996 Prendergast wrote that regardless of how much information is at hand against the responsiveness of a treatment, we can never tell with certainty that it will not work for a particular patient. He cites Hume's analysis of causality and the problem of induction, to say that even if a treatment for a particular disease has been unsuccessful for hundreds of times, we still cannot be 100% sure that it will not work for next patient (50).

An obvious objection is to remind the empirical nature of medicine. Certainty will never come, but physicians are committed to acting as reasonable observers.

The true question to ask concerns not the 100% certainty of futility, but the degree of certainty required here. How many times should a treatment fail to discard it as being futile? Just as in statistical hypothesis testing, that we accept the 5% probability of making a type I error, if a treatment doesn't work in 95 patients, and work only in 5 patients, we can reasonably regard that five patients being treated as merely by chance. However, when defining futility, we usually define error threshold even less than that in about 1% which seems an acceptable probability of failure (49). The same way in cosmetic surgeries if the success probability is less than 1%, providing it has no benefit for the patient and is not justifiable by the principle of beneficence.

Moreover, because of the presence of complications in almost all surgical operations, futile surgeries are not justifiable by the principle of nonmaleficence. Still, allocating limited medical resources and equipment for a treatment that has no conclusion, is even against the principle of justice.

**2. Virtue Ethics and Futile Cosmetic Surgery**

This theory is the oldest normative ethical theory in western philosophy, and its most notable defenders are Socrates, Plato, and Aristotle (38). Here, the fundamental question is the type of virtues and specific characteristics that are valuable in human beings. Virtue theorists focus on character of the individual and her life as a whole (7).

Providing futile cosmetic surgeries conflicts with some main virtues. For example, the virtue of benevolence means that the doctor should be benevolent of her patient but there is no good in futile surgeries for the patient, and they usually damage her, too( Like doing liposuction in a patient with strong contraindications) So futile interventions conflict with benevolence.

**Considerations**

Many cultures and philosophies have considered apparent beauty as a virtue because they have conceived it as a symbol of internal beauty (51). Some may oppose using the concept of futility in cosmetic surgeries with this line of reasoning: more beauty means more virtue. Critics are quick to divide cosmetic surgeries into two broad categories: first, surgeries that an individual chooses to be less seen in society, like rhinoplasty in Jews, and second, surgeries like lip and breast prostheses that are selected to attract more attention in society (52)(53). Therefore, one can say that cosmetic surgeries of the second type do not help in the cultivation of virtues since showing off is not a virtue. So the concept of futility may be still used in some cosmetic surgeries.

**3. Duty-based Ethics and Futile Cosmetic Surgery**

Advocates of this view, also called Deontological theorists, argue that there are some actions with an intrinsic value which can make them morally good and necessary, whatever the conclusions may be (7). The criteria to decide if an action is moral essentially includes a sense of duty or obligation. According to Kant's deontology, specific moral duties are categorical, i.e., they should be done in all situations regardless of place, time and person (38). For instance, beneficence and nonmaleficence are considered as principles which one must always act in accordance with them, even if this action comes with an undesirable conclusion. Because futile cosmetic surgeries are not beneficial for the patient and are also harmful sometimes, so the physician should not accept doing such operations (7).

Kant also introduced the notion of universalizability. It is a version of the so-called Golden Rule of Christianity: ‘Do unto others as you would have them do unto you.' (54) Performing futile cosmetic surgeries are also in conflict with this maxim because the physician will never do such operations on herself while she is aware of their futility. She should not make an exception of herself.

**Considerations**

1)Post and colleagues proposed in 1995 that common goals of medicine and religion for treatment of diseases are intertwined in an unbroken way, so the introduction of the concept of futility in medicine is a kind of objection to divine teachings and represents an impotent picture of religion (55).

In response, one may assign the so-called healing of patients by medicine and by religion into two distinct classes. Cases of healing as described in religious scripture are not based on medical knowledge but are instances of miraculous works, e.g., Jesus healing the blind by touching his eyes or making alive the dead. According to religious literature, miraculous work is done by divine powers, and this power cannot be possessed by any human, unless by the divine consent. There is no link between miraculous work and medical futility since the latter is due to a shortage of human knowledge and skill (49). Similarly, in cosmetic surgeries doctor has no task of providing a miracle as may be requested by the patient, because she is not in debt of performing a miracle.

2) Another objection, calls for exclusively considering patient's values and her judgment on treatment's outcome, regardless of what the physician sees. In adopting this position, defenders mention the use of qualitative criteria and assessment of the quality of life in patient's terms.

In response, Schneiderman argues that decision making cannot always be left to the patient, because the physician always has to observe for moral and professional principles. For instance, if a patient intends to have the most beautiful body in the world and requests anabolic steroids for that, the physician should not answer her demand. Even though prescribing medication leads the patient to her goal and desirable quality of life, this task is out of the domain of physician's duty (49).

**4. Consequentialism and Futile Cosmetic Surgery**

According to teleological theory or consequentialism, an action is moral if its benefits outweigh its harms. Champions of this theory evaluate rightness or wrongness, and goodness or badness of an action based on its consequence, i.e., how much good and evil will be brought about by that action (7). One of the most popular theories of this kind in medicine is utilitarianism, according to which, an action is right when it produces maximal welfare and happiness for a maximal total number of people. Even though all proponents of this theory hold that one must always do an action with the most benefit for most people, they present different opinions on what counts as benefit. Stuart Mill believed that this benefit is happiness and pleasure (56).

Others consider health, freedom, friendship, etc., as a benefit (57).

As mentioned earlier, futile cosmetic surgeries come with no benefit for patients, and occasionally their harms outweigh their benefits, so providing these interventions is morally wrong according to the consequentialist approach and specially utilitarianism.

**Considerations**

1) Truogand colleagues in 1992 and Morreim in 1994 stated that the lack of consensus on our conception of futility in medicine is a piece of evidence for the futility of this concept itself. Since no single definition of futility has been widely adopted by clinicians and ethicists, this concept is futile and has no use (58) (59).

Against this, the critic might reply in many ways. First of all, lack of a common definition does not mean lack of existence of treatments in medicine that have no benefit. The presence of such treatments is obvious to all. Secondly, if we abandon the problem because of the lack of a common definition, we have just paved the ground for profiteers, those who operate people with mental disorders many and many times for their benefit, and their justification is that the patient herself requests surgery (60). Thirdly, achieving an international consensus on any controversial issue requires considerable time. Many tasks should be done on different levels, e.g., the society needs to become aware of the issue, researchers should work on it, etc. In a similar case, achieving an international consensus on the definition of death required 20 years (49). So discussions on a definition of futility in cosmetic surgeries are not futile and can have many benefits for patients and society.

2) In the same paper, Truogand colleagues claimed that futility is a value-laden concept, and applying it in medicine is not beneficial until a value-free and physiologic conception become available. They did not present a definition of physiologic futility, but they held that only a physiologic definition of futility which entails a narrow spectrum of medical conditions, would be ethically plausible (59).

On the other hand, Schneiderman believes that even a physiologic definition would be based on values, because it presupposes that the goal of medicine is to preserve the function of organs and systems of body. It distances from the patient-oriented goal of medicine and only focuses on the biologic effects of interventions, instead of their benefits for the patient. The sole physiologic effect on the patient's body does not means benefiting the patient, but medicine should adopt a holistic attitude and views patients as a whole, not of discrete organs (49). If we only embrace the physiologic definition of futility, then one can do any type of intervention, on a patient who is mortally ill and is dying. The justification would be, of course, that the surgery has a substantial effect. For instance, performing heart transplant surgery in a patient with multi-organ failure would be defensible. If a cosmetic surgery only causes changes in patient's appearance or some part of her body, without having benefit for her as a human and as a whole individual, without changing her acceptance in society and her self-confidence, it would be futile and without benefit.

**Who can decide about futility in cosmetic surgeries**

For deciding about futility or utility of cosmetic surgeries, different options first come to mind. In the first one, physician alone decides the futility (61). In the past, paternalistic relationship was dominant in medicine. In this model, physician is conceived as a compassionate and resourceful father that provides whatever he sees as good. Here, deciding the kind of intervention is up to the physician and patient has little role in decision making (62) Deciding futility or utility of cosmetic surgeries is similarly up to the physician. In recent decades, some experts have defended this position, by arguing that the physician is qualified enough to assess the probability of treatment (in quantitative approach) and the quality of its outcome (in qualitative approach) (5).

Critics are not happy with discarding patient's values and demands. Some of them utilize the principle of autonomy to formulate an exaggerated model in which the patient is the only one with the capacity to choose and right to determine what shall be done on her body (7). Extensive developments in technology and widespread access to medical information has vanished largely the information asymmetry that had put a cast on medicine for centuries and contributed to the democratization of medicine (63). This led Susan Robin to introduce the patient as the main decider (46). Critics were quick to mention that the patient may demand interventions that are not beneficial to her or even demands harmful or futile interventions.

Pellegrino holds that generally speaking, the decision is up to the patient, but this right is taken away in certain conditions:

1. Conditions in which the patient's decision intentionally would hurt her.
2. Conditions in which the patient's decision would cause harm to others.
3. Conditions in which the patient's decision would violate the physician's personal and professional moral principles.
4. Conditions in which the patient's decision would entail futile or contraindicated treatments (64).

After emerging much controversy, some experts like Brody and Tomlinson proposed a new alternative approach. For them, physicians are allowed to have value judgments, but patients' demands are also being addressed. Brody offers a social mechanism for achieving a standard which is based on a consensus between doctor and patient. This approach is associated with fewer troubles than autonomy-based and paternalistic models and seems more plausible (65). In remaining cases which still demands of patient and doctor come in conflict with each other, both parties may be referred to a third authority that they both accept.

**Conclusion**

The authors believe that there are instances of medical futility in cosmetic surgeries. In some, the harm of provided treatment for patient exceeds its benefit. In some others, the patient's motive for demanding surgery is her underlying psychiatric disorder. The desired quality of life will not be achieved for such a patient even after doing many surgeries. There are some that their request for surgery is an induced demand under the influence of media, and surgery will improve their quality of life only minimally. These three groups of patients are instances of qualitative futility. Still, in some surgeries, the probability of achieving patient's goals is very small, and there is yet another group in which the goal is achievable with a reasonable probability, but that outcome is futile by physicians' point of view. These cases are instances of quantitative and normative futility, respectively. Providing such cosmetic surgeries is considered Immoral and unethical, according to ethical schools widely used in medicine like Principlism, virtue theory, duty-based theories, and consequentialism. So it is mandatory to avoid such interventions. If the physician is faced with patient's request for doing such futile surgeries, it is suggested to explain reasons of why not doing such surgeries and avoid providing them, while continually respecting patient's values and beliefs. If the physician is still faced with more insistence by patient, then it is suggested to refer her to another physician.

By considering the high demands for cosmetic surgeries in many countries and by considering the futility of many of them, it becomes necessary for authorities, governmental agencies, health care system, private organizations, media, and cultural activists, to address the issue. Finding solutions for the phenomenon of medical futility, would, of course, take a comprehensive analysis, but we believe that preparing clinical guidelines in order to standardize physician's action in the face of demands of futile cosmetic surgeries, can help decrease them considerably. This study has surveyed the concept of futility in cosmetic surgeries for the first time and has proposed an algorithm to decrease these treatments. So we clearly acknowledge the need for more studies to supplement and improve similar guidelines. Among the most important challenges in directing such solutions are opposition and non-compliance of parties that obtain massive profits from the business of performing these surgeries, like some physicians and media advertisers. Achieving a solution for limiting the inducing role of Media, and encouraging cooperation of involved parties at the administrative and non-governmental levels can be the subject of further studies.

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**Conflict of interest**

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Request for cosmetic surgery by a patient

Yes

Quantitative Futility

Yes

Is the probability of success of less than 1 percent?

No

Qualitative Futility

Yes

Does patient request surgery because of a psychiatric disorder?

No

Qualitative Futility

Yes

Is patient's request an induced demand by media?

No

Qualitative Futility

Yes

Are possible harms of surgery higher than possible benefits?

No

Normative Futility

Yes

Is the patient's goal of surgery worthless by the physician's point of view?

No

Providing treatment is not futile.

Figure 1 A simplified approach for decision making about futility of cosmetic surgeries.

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2. Body Dysmorphic Disorder [↑](#footnote-ref-2)