Pill Thinkers: Ethical Implications of Cosmetic Neurology

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Abstract
In lieu of an abstract, below is the first paragraph of the paper.

The desire for mind and body enhancement may be intrinsic to human nature. Individuals continually engage in behaviors like eating, exercising, or using chemicals such as caffeine or alcohol, in an effort to enhance mind and body for personal desire. The principle of autonomy and free will allows the individual the right to self-determination, freedom, and independence, although it is not an absolute right (Aiken, 2004). A healthy person can choose medical treatments like sildenafil citrate (Viagra) or more invasive treatments like cosmetic surgery to achieve personal outcomes. Neuroscience, or cosmetic neurology, uses pharmacological interventions such as selective serotonin reuptake inhibitors (SSRIs) and stimulants to enhance brain functioning by altering the neurotransmitters that affect mood and cognition. Cosmetic neurology by its nature is more complex than self-medicating at Starbucks.
The desire for mind and body enhancement may be intrinsic to human nature. Individuals continually engage in behaviors like eating, exercising, or using chemicals such as caffeine or alcohol, in an effort to enhance mind and body for personal desire. The principle of autonomy and free will allows the individual the right to self-determination, freedom, and independence, although it is not an absolute right (Aiken, 2004). A healthy person can choose medical treatments like sildenafil citrate (Viagra) or more invasive treatments like cosmetic surgery to achieve personal outcomes. Neuroscience, or cosmetic neurology, uses pharmacological interventions such as selective serotonin reuptake inhibitors (SSRIs) and stimulants to enhance brain functioning by altering the neurotransmitters that affect mood and cognition. Cosmetic neurology by its nature is more complex than self-medicating at Starbucks.

Neuroethics is concerned with three primary issues: safety, social effect, and philosophical aspects of individuals and values (Farah, 2004). It has the potential to alter social norms and how providers practice medicine (Fowler, 2004). The use of pharmacological agents in the healthy person to alter cognitive functions in the pursuit of intellectual and affective enhancement has ethical implications for society and human nature and worth (Wolpe, 2002). The dilemma in using medications to alter mood and cognition questions the ethics of treating the quality of an individual’s life with the same method we treat a pathology. In other words, science needs to determine what is a medicine and what is a drug, and differentiate between the patient with an illness and the consumer in need of fulfillment (Folwer, 2004).

Brain enhancement drugs have treated psychiatric and thought disorders, resulting in positive outcomes for individuals and society. Court ordered central nervous system (CNS) interventions have been already implemented, for example reducing violent behavior with SSRIs and antiadrogen treatment for convicted sex offenders. SSRIs can be used for one to three years after an episode of depression to prevent relapse. Depending on one’s perspective or practice model, maintenance treatment can be seen as either over-prescribing or ensuring patient safety by preventing further acute episodes (Farah, 2004). Reports on modafinil (Provigil) indicate it can successfully treat some patients with narcolepsy and other sleep disorders. The Food and Drug Administration (FDA) approved modafinil in 1998 when the U.S Army tested its use with sleep deprivation (Hall, 2003). Stimulants, like Ritalin, have been reported to raise the academic performance and Scholastic Assessment Test (SAT) scores in children. Parents and teachers also report positive outcomes in children related to improved academic performance when being treated with stimulants. Furthermore, a study on memory enhancing medications tested the memory of airplane pilots one month after emergency flight training and receiving donepezil (Aricept). It was found that the pilots receiving Aricept remembered their training better (Gazzaniga, 2005). Current research on these medications is focused on enhancing the cognitive and memory function of people with Alzheimer’s Disease (AD), mental retardation, and sleep deprivation (Hall, 2003). Cosmetic cognitive enhancement is not a theoretical argument, but it is a living ethical dilemma. These medications are prescribed to consumers and their impact on cosmetic use is aggressively being researched.

Enhancement medications are affected by health care costs. Medications that affect mood and cognition are prescribed for a variety of health issues. However, in areas like neurology and mental health these drugs are used as primary medical interventions. Many patients with neuropsychiatric pathologies do not receive the care they need due to key issues of access and cost in health care. Insufficient or lack of mental health coverage places more burden of cost to the consumer (APA, 2005). The factors limiting access to care will then put cosmetic clients who cannot access the system at an affective and cognitive disadvantage. Because enhancement of the healthy individual is a cosmetic treatment, insurance companies probably will not cover these procedures. This would limit treatment to those who can afford it (Chatterjee, 2004). It could also
place individuals with low socioeconomic status at an even greater social disadvantage with education and employment (Farah, 2002).

The potential ethical implication is then a violation of distributive justice or equal and fair access to health care for all (Aiken, 2004). Health care access, cost, and quality are the principle social concerns in neuroethics. Ethical concerns are based on who will choose to enhance brain functioning and who will not. Autonomy and the right for an individual to choose neuropharmacological interventions may pose a threat by changing the criteria on what is seen as normal brain function and therefore raise the standards of normalcy. For example, raising the standards of normalcy could impact competition to the point of requiring government regulations for drug policies like in competitive sports events to assure fair competition or a level playing field. The writer questions if the debate over neuropharmacological enhancement is an appropriate concern at this time. Those who are medically and psychologically ill, performing below baseline function due to pathology, cannot receive necessary care. Does neuroethics then implicate that elective treatments for smarter and happier brains have priority over treatments for illness or life and death issues? Although, it appears unlikely that individuals who innately have normal memory function will use memory enhancement drugs because when memory operates within normal limits, we adapt to that level of functioning to the extent it is integrated with psychological self-concept (Gazzangia, 2005).

A major concern in the pharmacology of brain enhancement is drug safety, pertaining to the long-term effects and the potential complications. The prescribing and administration of enhancement drugs is also a potential problem. Some literature suggests that mood and cognitive enhancing drugs do not truly benefit the healthy person, but potentially negatively affect mental functioning later on in life (Farah, 2004). Although all medications have side effects, the long-term effects of cognitive enhancing drugs are undetermined. The research on drug safety does not always incorporate long-term use, and there is even less research on the long-term use in healthy individuals. Stimulant drugs like methylphenidate (Ritalin), used to treat Attention Deficit Hyperactive Disorder (ADHD), and modafinil also increase attention in healthy individuals. A concern with these drugs is long-term use may promote premature memory loss and cognitive decline (Farah, 2004). Furthermore, Ritalin has been reported to have a high abuse potential, and even as a controlled substance, it is readily available on college campuses. Coffee is also available on campus, and some research suggests that Ritalin and modafinil have equivalent if not poorer results than caffeine (Hall, 2003).

The long term or delayed side effects are unknown for medications that improve memory function, for example the cholinesterase inhibitors currently used in Alzheimer’s Disease (Chatterjee, 2004). A potential complication in the use of memory enhancement drugs is the impact on mood. Some memories are connected to mood, and altering the individual’s selective process of choosing what he/she forgets may also enhance sensitivity to pain (Wolpe, 2002). Memory enhancement drugs may also open doors to a new set of disorders by exposing an individual to traumatic memories that would have otherwise been repressed and risk dissociation (Gazzangia, 2005). The potential side effects of increased pain sensitivity, psychological disorders, and damaged brain function in later years of life are serious and negative outcomes associated with cosmetic neurology. This may be interpreted as violations of the ethical principles nonmaleficence and beneficence by health care providers who prescribe these medications because of the potential side affects.

Mood and cognitive enhancers are prescribed by neurologists, psychiatrists, primary care providers, and even advanced practice nurses. However, this may pose a threat to patient safety and violate principles of nonmaleficence and beneficence. Primary care providers who treat mood or cognitive disorders do not typically spend as much time with patients as mental health providers. The limited interactions primary care providers have with patients may not allow ongoing and supportive therapeutic relationships. This may result in the possibility of overlooking other comorbidities or psychiatric distress. Some research supports that primary care providers offer patients little information on side effects and inadequate explanation regarding the therapeutic effects of medication compared to mental health
clinicians (Nolan, Bradley, & Carr, 2004). In addition, primary care physicians have been found to treat mood disorders like depression inappropriately, for example starting at higher doses and not recommending therapy in conjunction with medical treatment (Nolan, Bradley, & Carr, 2004). There are also parents and teachers who push providers to prescribe stimulant drugs like Ritalin to children with behavior and attention problems or ADHD (Diller, 1998). Whether or not primary health care providers make prescribing and treatment errors, is prescribing by proxy in the scope of practice of teachers and parents?

Current literature in neuroethics suggests that affective and cognitive enhancement is already taking place and is unstoppable (Gazzaniga, 2005). Although the benefit of enhancement drugs to the healthy person is still in question, medications like Viagra have set the stage for public acceptance and access (Hall, 2005). There may be civil and criminal penalties that can be attached when a health care provider prescribes enhancement drugs, similar to when professionals prescribe drugs with unfavorable risk-benefit ratios to children and adults or if they provide an athlete with steroids (Brock, 1998).

The question of cognitive enhancement raises philosophical and social questions related to the medicalizing of human productivity as well as the value and dignity of work (Farah, 2004). Cosmetic neurology has demonstrated its efficacy in the healthy person, as well as the potential side effects and associated problems like addiction and over-prescribing. Individuals have a right to autonomy and self-determination, but this does not include unrestricted access to treatment. The ethical impacts are in evidence and perhaps suggest a more conservative approach to the application of its tenets. Like other methods we use to enhance and improve our bodies, cosmetic neurology will be an ethical violation for some and the magic bullet for others.

References