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Urmia School
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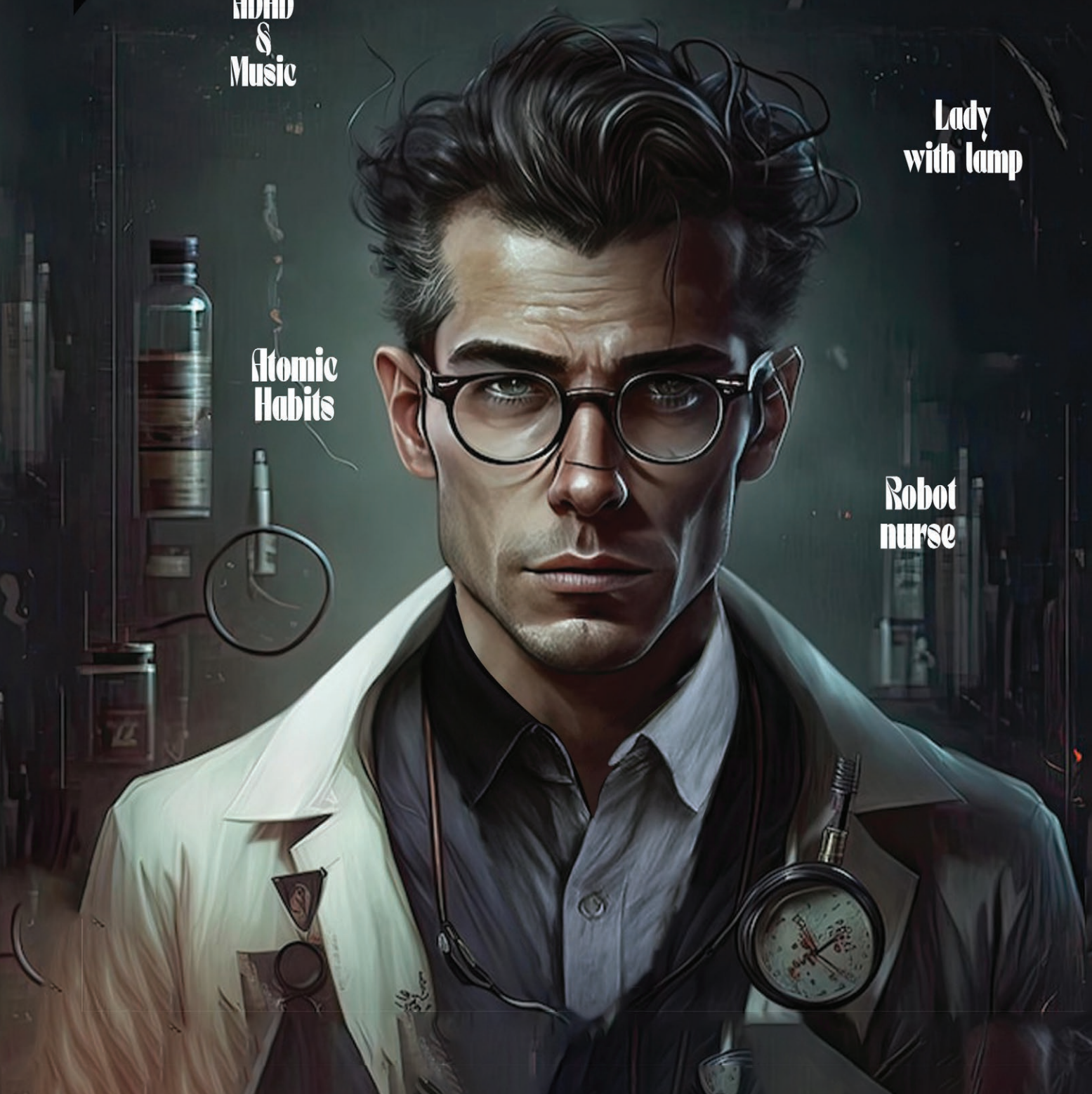


ADHD
&
Music

Lady
with lamp

Atomic
Habits

Robot
nurse



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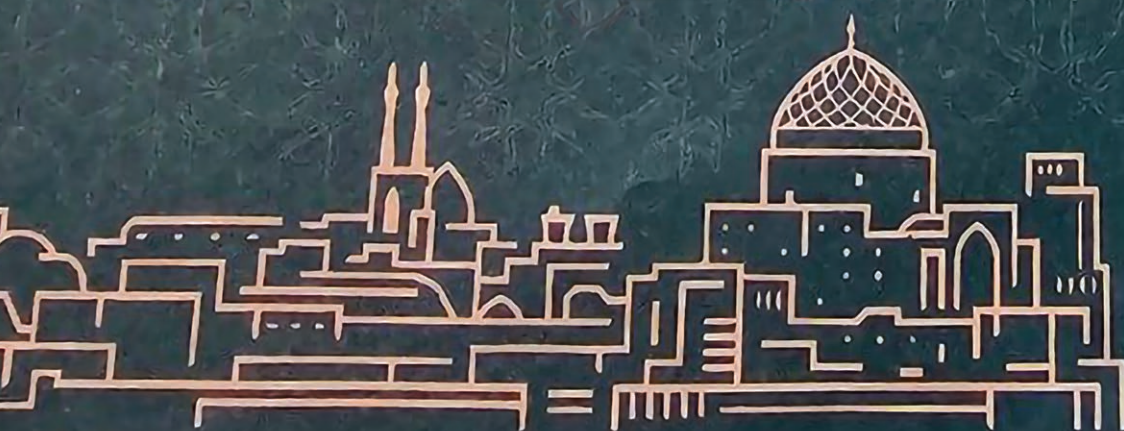
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and we reveal of the quran that which is a healing and a mercy to the
believers, and it adds only to the perdition of the unjust

Surah Al Isra, verse 82



Designed by
Astvin Hatami

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Message from the Editor-in-Chief

It is with great pleasure that I present to you the second English edition of our publication. The release of this issue marks another important step in our journey to connect with a wider audience and to share knowledge, ideas, and perspectives beyond borders.

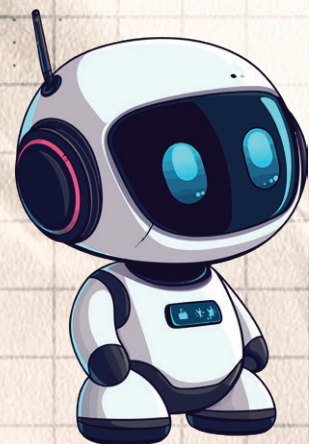
Our mission has always been to create a platform that encourages dialogue, inspires creativity, and reflects the diverse voices within our community. With this second edition, we have placed special emphasis on both the quality of content and the variety of topics, hoping to engage readers with insights that are not only informative but also thought-provoking.

I would like to express my sincere gratitude to our dedicated editorial team, contributors, and partners whose efforts and commitment have made this publication possible. Most importantly, I thank you, our readers, for your continued interest and support. Your feedback and engagement inspire us to aim higher with every new issue.

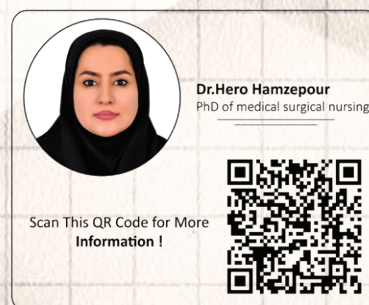
We hope you find this edition enriching and enjoyable, and we look forward to sharing many more issues with you in future.

With warm regards,
Behzad Meftahi
Editor-in-Chief





When Robots Put On White Coats



The Story of Nursing and Artificial Intelligence

Imagine walking into an emergency department: a patient lies on the bed, a monitor above records their vital signs second by second, an intelligent device alerts that the patient's blood pressure is dropping, and a nurse, assisted by a clinical decision-support software, administers the appropriate medication in record time. In another corner of the room, a small robot brings a medication from the pharmacy and delivers it directly to the nurse. A few years ago, such a scene might have resembled a science-fiction movie, but today, it is part of modern nursing reality—a reality shaped by artificial intelligence (AI).

Simply put, AI is the ability of machines to learn and make decisions in ways that resemble human thinking. This technology is gradually entering all aspects of life, and nursing is no exception. It is no longer only physicians who benefit from AI algorithms for diagnosis; nurses now also have a digital assistant at their side. From intelligent monitoring systems that detect subtle changes in vital signs to care robots moving through nursing homes, from chatbots that answer patients' basic questions to software that helps nurses make rapid and accurate clinical decisions, AI is becoming an integral part of the modern nursing landscape.

The advantages of AI are numerous. First, it can reduce human error; by analyzing thousands of patient records and identifying hidden patterns, AI minimizes the risk of medication or diagnostic mistakes. Second, it frees up nurses' time, as repetitive and time-consuming tasks are handled by technology, allowing nurses to spend more time with patients. Third, it enables continuous patient monitoring without fatigue, something even the most dedicated nurse cannot achieve alone. Fourth, patients can access reliable educational resources and guidance through AI-powered

applications. And fifth, perhaps an unexpected benefit is that nurses no longer need to spend hours searching for misplaced medications; the robot always knows where the medication is, and it never jokes around with you!

However, AI's presence is not entirely without concerns. Many ask: Will robots one day replace nurses? Will hospital wards be filled with machines performing human tasks? The truth is that nursing is more than handling medications and equipment. Nursing involves holding an anxious patient's hand, listening to family concerns, and providing empathy during difficult moments—elements that no algorithm can replicate. Moreover, ethical and legal issues remain: if an algorithm makes a mistake and a patient's life is endangered, who bears responsibility—the nurse, the software engineer, or the AI system itself?

For today's nursing students, familiarity with AI is no longer optional; it is essential. Future nurses must combine clinical expertise with digital literacy—from operating intelligent monitoring systems and data-management software to educating patients on the proper use of health applications. Simply put, the nurse of tomorrow must deliver the most human-centered care while mastering the most digital tools.

A touch of humor is also important for maintaining nurses' well-being. When

a robot delivers medication, there is no need to worry about missing ampoules or broken bottles. When the AI software alerts you, you can smile and think, "Well, at least no one spilled coffee on my files this time!" This interaction between humans and machines, combined with a bit of humor and adaptability, can make the workplace not only more efficient but also more enjoyable. Imagine a small robot sitting quietly beside you while you complete daily reports—it never complains and never asks for coffee!

Ultimately, nursing and AI are neither rivals nor enemies. They are two wings of the future of nursing. AI can take on repetitive, labor-intensive, and computational tasks, freeing nurses to focus on the most important aspect of their profession: humanity. Therefore, if you are a nursing student today, remember: your future does not lie in competing with robots, but in collaborating wisely with them. Robots may wear white coats, but what gives nursing its meaning will always be the human heart behind it.

Dr. Hero Hamzepour





LADY WITH THE LAMP



Behzad Meftahi
Nursing Student

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Florence Nightingale, a pioneering figure in the field of nursing during the 19th century, revolutionized medical practices through her innovative approaches to healthcare and dedication to improving patient outcomes. Her advocacy for sanitation significantly reduced mortality rates among patients. Nightingale's pioneering use of data analysis in healthcare and her establishment of nursing education standards laid the foundation for the nursing profession as we know it today. Her contributions continue to resonate in the field of medicine to this day.

Pioneering contributions to medical services

Florence Nightingale's transformative impact on medical practices is perhaps best understood through a comprehensive review of her pioneering contributions to the fields of nursing, sanitation, and healthcare management.

Through her innovative approaches and tireless advocacy, Nightingale left an indelible mark on the landscape of healthcare, revolutionizing medical practices and laying the groundwork for modern healthcare systems.

Central to Nightingale's legacy is her groundbreaking work in sanitation and infection control. She was cognizant of John Snow's pivotal 1854 epidemiological research, which demonstrated a direct connection between cholera and contaminated water from London's Broad Street Pump. This research led Nightingale to recognize the link between the illnesses afflicting her patients and the unclean hospital rooms with

unsanitary environments . After identifying the crucial connection between unsanitary conditions and the spread of Infectious diseases, Nightingale Implemented rigorous hygiene practices that drastically Improved the standards of patient care .

At the Ottoman Selimiye Barracks, which had been turned into a temporary military hospital, Nightingale reorganized and refined its sanitation over the course of the Crimean War . Her emphasis on cleanliness, ventilation, and the maintenance of sanitary environments within healthcare facilities led to dramatic reductions in mortality rates and laid the foundation for modern infection control protocols [6]. Nightingale's advocacy for sanitary reforms remains one of the most important public health initiatives to this day, underscoring the enduring relevance of her contributions

Pioneering statistical analysis In medicine

Drawing on her background in mathematics and statistics, Nightingale collected and analyzed data on patient outcomes, mortality rates, and healthcare practices . Her statistical analyses provided critical insights into the effectiveness of medical interventions and the impact of environmental factors on patient health. Nightingale's use of statistical analysis is notably shown in her work during the Crimean War. In her seminal report titled «Notes on Matters Affecting the Health, Efficiency, and Hospital Administration of the British Army», Nightingale presented statistical data on mortality rates among wounded soldiers in military hospitals. Specifically, through careful analysis of this data, Nightingale demonstrated that the majority of deaths were not due to battlefield

injuries, but rather to preventable diseases such as typhus, cholera, and dysentery..

Nightingale's statistical analyses revealed the profound impact of unsanitary conditions on patient outcomes, bringing attention to the urgent need for improved sanitation practices in healthcare facilities . Acting on her findings, Nightingale implemented rigorous hygiene measures: the provision of clean water, proper ventilation, and the thorough cleaning of hospital wards. These interventions led to a significant reduction in mortality rates and laid the foundation for modern infection control protocols . However, Nightingale's use of statistical analysis did not stop at the battlefield. Throughout her career, she collected and analyzed data sets on a wide range of healthcare issues, including hospital management, nursing practices, and public health. Her innovative approach to data analysis paved the way for evidence-based medicine and epidemiology, emphasizing the importance of empirical evidence in guiding medical decision-making . Her pioneering work laid the foundation for evidence-based nursing and underscored the importance of data-driven decision-making in improving patient outcomes. These initial, revolutionary efforts to reconcile knowledge and practices to reduce harm, both physical and psychological, continue to be timeless in their relevance, to the present day, as recovery efforts continue against the COVID-19 pandemic .

Establishment of the nursing profession and education

In addition to her work in sanitation, Nightingale played a pivotal role in professionalizing the nursing profession and establishing standards for nursing education . The world's

first secular nursing school at St. Thomas' Hospital in London was founded by Nightingale in 1860. The establishment of this school was a pivotal moment in the history of nursing education and professionalization. Florence Nightingale recognized the urgent need for systematic training and education for nurses, as she believed that competent and compassionate nursing care was essential for improving patient outcomes. The Nightingale Training School for Nurses was founded on the principles of discipline, education, and compassion. Nightingale envisioned a rigorous curriculum that would provide nurses with both theoretical knowledge and practical skills, ensuring that they were well-prepared to meet the demands of their profession. The curriculum included instruction in anatomy, physiology, hygiene, and nursing care techniques, as well as practical experience working with patients under the supervision of experienced nurses. Nightingale was closely involved in the development and administration of the nursing school, personally selecting the staff and overseeing the curriculum. She was committed to maintaining high standards of education and professionalism, and she worked tirelessly to ensure that the nursing school lived up to her vision. The Nightingale Training School for Nurses quickly became a model for nursing education worldwide, and it played a crucial role in elevating the status of nursing as a respected profession. Graduates of the school went on to work in hospitals and healthcare settings around the world, carrying Nightingale's principles of compassionate care and scientific rigor with them .

Modern impact

In addition to her work at the Nightingale Training School for Nurses, Florence Nightingale wrote extensively on nursing education and training, publishing influential studies such as Notes on

Nursing: What It Is, and What It Is Not. In this book, Nightingale gives the timeless advice, "Every nurse ought to be careful to wash her hands very frequently during the day". This emphasis on hand hygiene is one of Nightingale's lasting legacies and has permeated much of the world. This now-common practice drastically decreases the risk of infectious diseases in day-to-day activities, with its importance increasing exponentially in the healthcare setting. It is from these simple gestures and practices that a holistic and healthy approach to patient care is built. Through her writings and educational efforts, Nightingale laid the foundation for modern nursing education and helped shape the development of the nursing profession.

Conclusions

Florence Nightingale's enduring legacy continues to profoundly influence medicine and nursing today. Her innovative approaches to sanitation laid the groundwork for global health standards, significantly reducing the spread of infectious diseases. The establishment of rigorous nursing education standards has elevated the profession, ensuring high-quality care worldwide. Moreover, her pioneering use of statistical analysis has become integral to evidence-based healthcare practices, guiding modern medical decisions and policy formulation. Nightingale's visionary initiatives remain pivotal in shaping the contemporary landscape of healthcare, advancing patient outcomes and healthcare efficiency across the globe.

Introduction

Why do many women feel embarrassed to talk about their bodies? Why, even in environments that are supposed to be safe spaces to express physical issues, are words like “vagina,” “period,” or “discharge” whispered or left unspoken? How can a woman feel pain, burning, or any change in her body yet prefer to remain silent, simply out of fear of judgment or shame? Where does this silence come from? And what responsibility do we, who face these realities every day, have in addressing it?

The Female Body and Social Shame

In many cultures, including Iranian society, the female body is hidden beneath layers of silence, shame, and taboo. School education often approaches topics related to female anatomy and physiology in a conservative and incomplete way. Within families, discussions of sexual or physical matters are either forbidden or reduced to vague, distorted, or childish terms. As a result, many girls enter puberty without a clear understanding of their bodies and later hesitate to express their physical needs. This silence is not limited to everyday conversations; it also appears in healthcare settings. Women who visit clinics often struggle to describe their symptoms clearly. Even in hospitals supposedly professional and scientific environments signs of embarrassment, fear of judgment, and lack of knowledge persist. This shows that silence around the female body is not a personal shortcoming but a deeply rooted cultural and social issue.

The Impact of Silence on Women's Health

The silence and shame surrounding the body have consequences beyond cultural matters; they directly affect women's physical and mental health. Women who avoid speaking about their symptoms often delay seeking treatment, resulting in more severe complications. For example, many cases of endometriosis, chronic pelvic infections, or even reproductive cancers are diagnosed late due to postponed medical visits. Research also shows that many women skip regular screenings, such as Pap smears, because of fear of judgment or social stigma.

Personal Experience of Silence in Practice

During my hospital internship, I frequently encountered women who, despite obvious symptoms, could not openly discuss their problems.

In one case, a woman came in with severe lower abdominal pain but repeatedly used vague phrases like “a pain down there” or “something wrong there.” Yet, her history included months of abnormal discharge and painful intercourse symptoms requiring urgent examination. In another case, a young mother avoided mentioning vaginal dryness after childbirth

due to fear of being labeled as “indecent.” It was only when a midwife engaged her in an open, respectful conversation that she felt able to share.

Experiences like these occur regularly in healthcare settings and testify to a silence that must be broken.

The Role of Midwives in Breaking the Taboo

Midwifery students and staff stand at the frontline of communication with women. Our responsibility goes beyond addressing physical health; we must create spaces for open, non-judgmental dialogue.

Using clear scientific language, offering respectful education, and practicing active listening are powerful tools midwives can use to reduce this cultural gap.

It is also essential that healthcare providers remain sensitive to gender, cultural, and psychosocial factors. Silence about the body is not modesty; it is the product of ignorance, gender-biased upbringing, and fear of judgment. Our role is clear: to build an informed, scientific, and supportive environment where women can speak freely about their bodies.

Final Words

Silence around women's bodies is not an individual or temporary issue; it has roots in cultural, educational, and healthcare structures. This silence delays diagnosis and treatment and endangers women's physical and mental well-being.

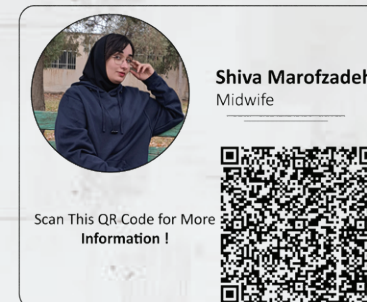
Yet, within this challenge lies an opportunity: through education, communication, and non-judgmental support, we can help women better understand and advocate for their bodies.

Change begins with breaking the silence not through shouting, but through listening, understanding, and creating safe spaces for dialogue in examination rooms, childbirth classes, and across society at large.

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WOMEN THEIR BODIES AND SOCIETY'S SILENCE



SILENCE



ADHD & Music



Hedyeh Sotoodeh
Nursing Student

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Music is more than just a soundtrack to our lives...it's a cognitive companion, an emotional regulator, and, for many, a daily necessity.

A new study comparing young adults with and without attention-deficit/hyperactivity disorder (ADHD) offers a deeper look into how background music is used during daily tasks, and why preferences may differ between these groups.

The findings reveal that while both neurotypical and ADHD individuals value music's role in focus and mood, the situations in which they use it...and the kind of music they choose...can diverge in intriguing ways.

Researchers surveyed 434 adults aged 17 to 30, dividing them into two groups: those who screened positive for ADHD and those without attentional symptoms. Participants reported on their weekly listening time, the types of activities they paired with background music, and their preferences for music style and characteristics. They also rated music's perceived effects on their concentration and emotional state.

Activities were split into "more cognitive" (such as studying, reading, problem-solving) and "less cognitive" (like cleaning, cooking, or exercising).

The results showed that ADHD-screened participants reported more frequent background music

use during certain situations...especially while studying and exercising...and in less cognitively demanding activities overall. They also had a stronger preference for stimulating music, regardless of the activity type. In contrast, neurotypical participants leaned more toward relaxing and familiar music during tasks requiring high concentration.

Interestingly, despite these differences in usage patterns, both groups rated music's benefits to concentration and mood similarly, suggesting a shared appreciation for its cognitive and emotional lift.

These listening patterns align with two established psychological frameworks. The Cognitive Capacity Hypothesis proposes that our attentional resources are finite; complex tasks demand more of this "mental bandwidth," leaving less capacity to process music. For individuals with ADHD, whose attentional control may already be more limited, music could serve as either a helpful arousal booster or a distracting extra load, depending on the context.

Meanwhile, the Moderate Brain Arousal Model offers another perspective: people with ADHD may seek higher stimulation to reach optimal alertness, especially during repetitive or monotonous activities. Stimulating music, then, could be a deliberate strategy to keep focus steady.

The study also highlights the role of emotional regulation. According to the Mood Arousal Theory, music can modulate both emotional valence (pleasantness) and arousal level, influencing performance in a task-dependent

manner. Neurotypical participants' preference for relaxing, familiar tracks during challenging activities may reflect a strategy to maintain calm focus, while ADHD-screened listeners' attraction to stimulating, sometimes less familiar tracks could help counteract low arousal and wandering attention.

While the findings add valuable nuance to our understanding of music and attention, they also come with caveats. This was a self-report study rather than a controlled experiment, and ADHD status was determined via a screening questionnaire, not a clinical diagnosis. Still, by capturing real-world listening habits rather than laboratory simulations, the research paints a realistic picture of how young adults integrate music into their daily cognitive routines.

The takeaway is not a universal prescription...there's no one "right" playlist for focus...but rather an invitation to think strategically about music use. For those with ADHD, stimulating, upbeat tracks might aid in sustaining attention for certain tasks, while neurotypical listeners may benefit from calming, instrumental choices during demanding work.

Future studies using brain imaging and controlled experiments could help clarify exactly how these choices affect neural activity, and whether personalized "cognitive playlists" could become a practical tool for enhancing focus and emotional well-being.

If the study makes one thing clear, it's this: music isn't just background noise...it's an active ingredient in how we manage our minds. And the way we use it may say as much about our brains as it does about our tastes.

Reference:

Listening habits and subjective effects of background music in young adults with and without ADHD by Nathalie Gosselin et al. Frontiers in Psychology



Nursing in the Age of Artificial Intelligence

Transforming Roles and Readiness for the Future

Introduction

The integration of Artificial Intelligence (AI) into healthcare is no longer a futuristic idea. It is already reshaping clinical workflows, diagnostic accuracy, and patient monitoring. As frontline healthcare providers, nurses are experiencing profound shifts in their roles and responsibilities. This article explores how AI is influencing nursing practice and how nurses can prepare for this technological transformation.

Evolving Roles of Nurses

A 2025 systematic review by Al Khatib & Ndiaye highlighted the significant impact of AI on nursing practice. From AI-based Clinical Decision Support Systems (CDSS) to robotic assistance in routine care, technology is increasingly handling repetitive and data-intensive tasks. This shift allows nurses to dedicate more time to complex responsibilities such as emotional support, patient education, and advocacy domains where human empathy is irreplaceable.

AI also contributes to early disease detection, personalized care plans, and real-time monitoring of vital signs. However, these advancements require nurses to develop the ability to interpret AI-generated outputs accurately and responsibly. This demand underscores the growing importance of nursing informatics as a core competency.

The Need for Readiness and Education

According to Rony et al. (2024), strengthening nurses' preparedness is essential for meaningful integration of AI into nursing practice. Their findings emphasize three key areas:

1. **AI Literacy and Training:** Nurses must understand the functioning and limitations of AI algorithms, as well as how to interpret outputs in clinical contexts.
2. **Ethical and Legal Considerations:** Safeguarding patient privacy, ensuring informed consent, and promoting transparency in AI systems are critical.
3. **Collaboration in AI Design:** Nurses should actively participate in designing and implementing AI tools to ensure they address real clinical needs.

To bridge the gap between technology and practice, nursing curricula and hospital training programs must embed AI education at both undergraduate and professional development levels.

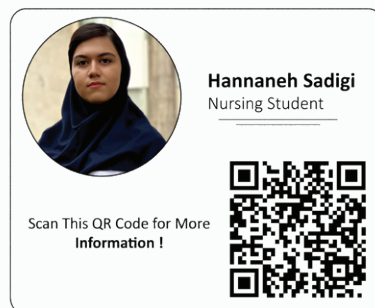
Challenges and Ethical Concerns

While AI promises greater efficiency and improved patient outcomes, it also presents ethical challenges. Algorithms may contain bias, lack cultural sensitivity, or function as «black boxes» with limited transparency. Nurses must remain vigilant, applying critical thinking to ensure AI supports but never replaces their clinical judgment.

One of the most pressing concerns is the potential dehumanization of care if healthcare systems over-rely on machines. Preserving the human connection in nursing is vital to maintaining trust and compassion in patient care.

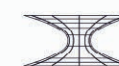
Conclusion

Artificial Intelligence is reshaping the nursing profession not by replacing nurses, but by redefining their roles. To thrive in this new era, nurses must be proactive, well-educated, and ethically aware. Embracing AI with readiness and resilience will ensure that nurses continue to play a central role in delivering safe, empathetic, and effective care in the digital age of healthcare.

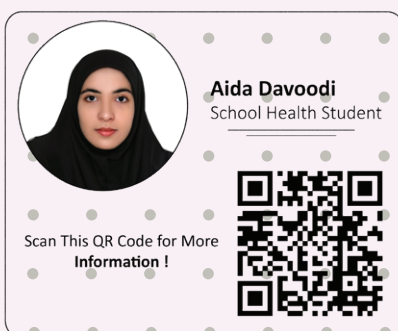


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HEALTH IN SCHOOLS



Introduction

Community Health Workers (CHWs) are trusted community members who play a vital role in providing health education and care. In schools, their presence can help bridge the gap between education and health services, ensuring that children grow and learn in a supportive environment.

Promoting Health at School

In many low-income countries, promoting the health of school-aged children is hindered by limited knowledge of their health status and the absence of school-based health workers. Hands-on health interventions are rare, and the weak connection between schools and primary care facilities makes the situation worse. To address these challenges, the World Health Organization (WHO) introduced the Health Promoting School (HPS) framework a comprehensive model designed to integrate health into all aspects of school life while promoting physical, mental, and social well-being.

Health Promoting Schools (HPS)

The health of schoolchildren requires particular attention, especially in resource-limited settings. HPS offers a promising opportunity to address the well-being of children in public schools. However, for effective implementation, several steps are essential:

- Developing and adapting supportive health policies
- Establishing health promotion teams
- Providing orientation and training for teachers and community members

Physical Activity

Insufficient physical activity is one of the four major risk factors for non-communicable diseases such as stroke, heart disease, type 2 diabetes, cancer, and chronic lung disease. Alarmingly, only one in five children aged 5 to 17 years engage in the recommended amount of physical activity for health benefits.

Since schools account for a large portion of children's daily time, they present a key opportunity to increase physical activity levels and reduce the future burden of disease.

Nutrition and School Feeding

School feeding programs are an effective strategy to improve both health and educational outcomes for children and adolescents. Proper nutrition supports

intellectual, social, and emotional development while lowering the long-term risk of non-communicable diseases.

Dental Health

Oral health in childhood is a strong predictor of oral health in adulthood. Since oral health is closely tied to overall health, school-based interventions can play an important role. Research shows that school dental health education significantly improves children's oral health status, knowledge, and daily hygiene practices.

Conclusion

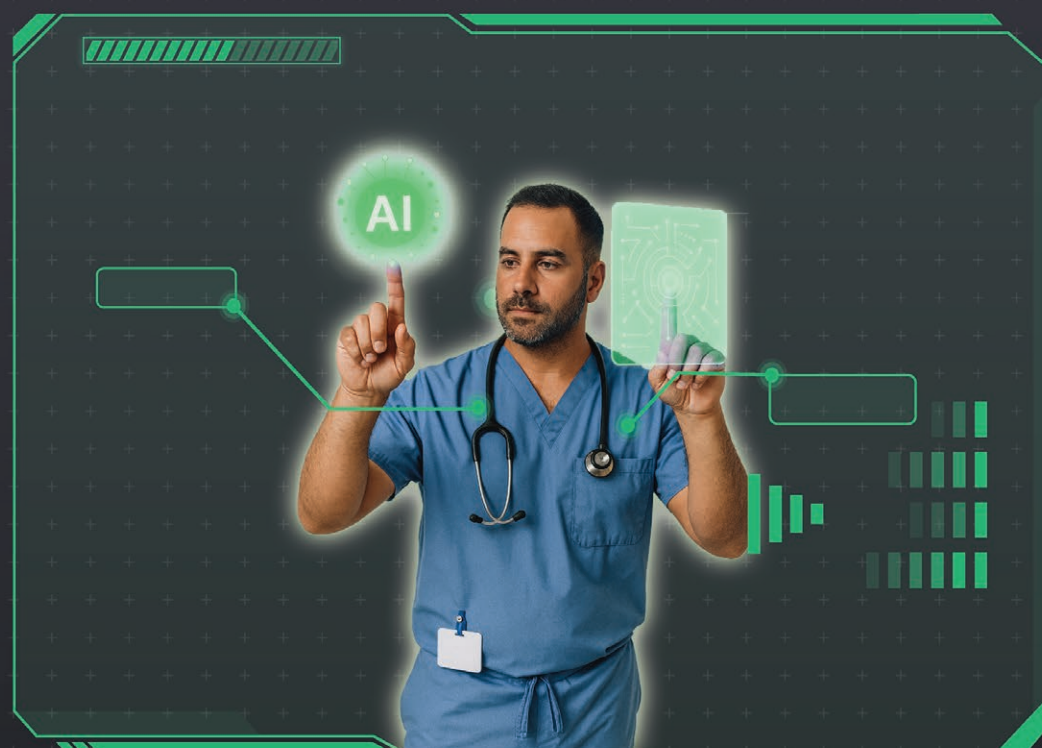
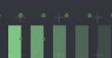
Health in schools refers to the comprehensive measures taken to maintain and promote the physical and mental health of both students and staff. These measures include:

- Improving school environmental health
- Supporting personal health practices
- Providing health education
- Preventing disease and accidents

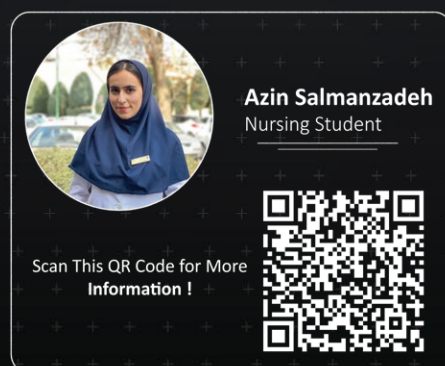
By integrating frameworks such as HPS and strengthening school-based interventions in physical activity, nutrition, and oral health, schools can become powerful environments for fostering lifelong health and well-being.

Resources:

Indian J Dent Res
Int J Environ Res Public Health
Front Public Health



AI in Nursing



As nursing students, we often think of long shifts, clinical practice, and endless textbooks. But have you ever stopped to think about how technology is quietly changing the way healthcare works? Artificial Intelligence, or AI, is one of the biggest changes happening in the world right now. It's not just about robots or futuristic ideas you see in movies. In real hospitals and clinics, AI is being used to support doctors and nurses. For us as students, this is exciting because it means the profession we are entering will look very different in the next few years. Learning about AI is like preparing ourselves for the future of nursing.

What is AI, really?

AI is basically when computers or machines are designed to think and act in ways that seem smart. In healthcare, it means using technology to analyze information, predict problems, and even suggest solutions. It's not replacing humans; it's like having a very advanced calculator or assistant who helps us do our job better.

AI in Patient Monitoring

One of the most important uses is patient monitoring. Imagine you are on a night shift with many patients to look after. AI systems can track heart rate, oxygen level, or blood pressure in real time, and send an alert if something unusual happens. This gives nurses more confidence that nothing will be missed.

Less Paperwork, More Patient Time

Another application is electronic health records. We all know how much time goes into paperwork; sometimes it feels endless! AI can organize patient data and even summarize information, saving nurses valuable time and energy.

Smarter Decisions with AI

AI can also support clinical decision-making. For example, if a patient has certain symptoms, the system can suggest possible diagnoses or treatments based on large amounts of medical data. Of course, the nurse or doctor makes the final decision, but AI acts like a smart assistant giving useful hints.

Benefits We Can't Ignore

The benefits of AI are clear. First, it reduces errors by analyzing data more carefully than humans can. Second, it improves efficiency by helping nurses spend less time on paperwork. Third, it gives patients better care by predicting risks early—for example, spotting signs of sepsis before it gets worse. Finally, AI makes remote care easier, especially in the post-COVID world.

Problems and Risks

But let's be honest, AI is not perfect. There are still many challenges. One problem is that AI systems depend on the data they are trained on. If the data is biased or incomplete, the results can also be wrong. Privacy is another big issue. Patient data is very sensitive, and using AI means a lot of information is stored digitally. Hospitals must make sure this data is protected.

Why Nurses Still Matter Most

Some people worry that AI will replace nurses. In reality, AI should not replace us but support us. Empathy, human connection, and communication are things no machine can do as well as a nurse. That's why the human side of nursing will always be important.

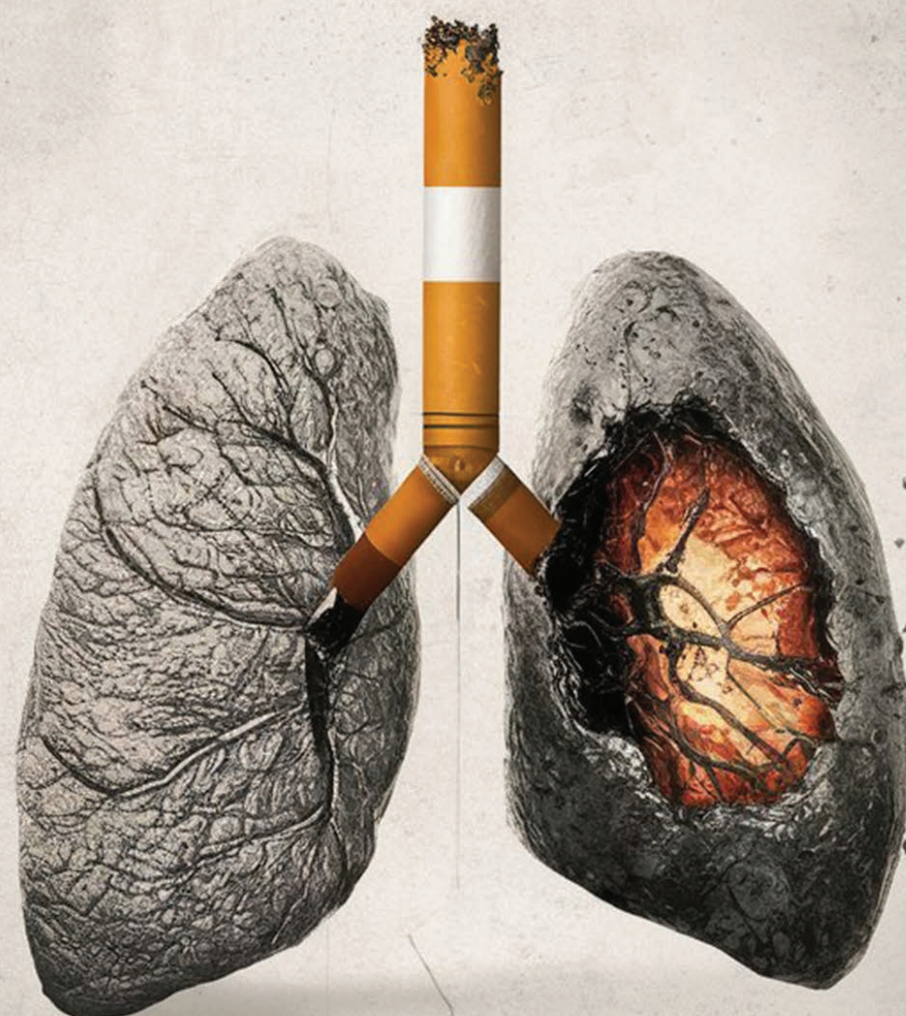
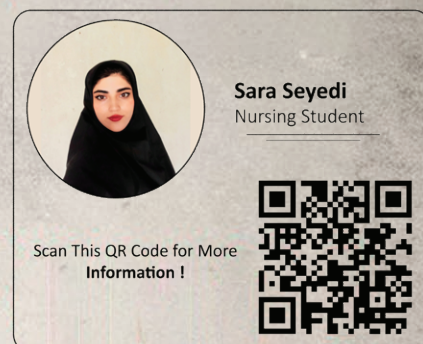
Preparing for the Future

As future nurses, we should not be afraid of AI but instead see it as a tool that makes us better at what we do best: caring for people. It helps with monitoring, decision-making, paperwork, and patient communication. The future of nursing will not be about replacing humans with machines; it will be about combining human care with smart technology.

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The Cruel Journey of Cigarettes in the Body



Imagine this: every passing minute, on average, a cigarette claims the lives of five to ten people worldwide. An even more alarming statistic is that 1.25 billion people are exposed to second-hand smoke, with harmful effects that seriously impact their health. With each puff, numerous toxic substances enter the bloodstream, forcing the heart and blood vessels into a cruel battle—a battle in which heart cells struggle to survive against a self-made enemy.

1. What Are Cigarettes Made Of?

Cigarettes contain more than 7,000 chemical compounds, many of which are toxic to humans. Among these are nicotine, tar, carbon monoxide, ammonia, benzene, formaldehyde, cyanide, and heavy metals. The table below lists some of these substances and their effects:

Component	Effect on the Body
Nicotine	Increases heart rate, blood pressure, and causes addiction
Tar	Lung damage; carcinogenic
Carbon monoxide	Reduces oxygen delivery; causes tissue hypoxia
Formaldehyde	Irritates the respiratory tract; carcinogenic
Ammonia	Irritates lungs; increases nicotine absorption
Arsenic	Toxic; carcinogenic
Cadmium	Causes kidney and bone damage
Benzene	Carcinogenic; suppresses bone marrow

2. What Is a Smoker's Heart Like?

Research has shown that smoking profoundly damages heart function over time. A smoker's heart differs significantly from that of a non-smoker due to the presence of nicotine, carbon monoxide, free radicals, and other toxins in cigarette smoke.

Reduction of Good Cholesterol (HDL):

HDL is produced in plasma by the enzyme LCAT. Cigarette smoke reduces LCAT activity, lowering HDL levels and effectiveness. Free radicals in smoke also oxidize and destroy HDL.

Hemodynamic Effects:

Nicotine stimulates the release of catecholamines (epinephrine and norepinephrine), which increase heart rate, blood pressure, and oxygen demand. Meanwhile, carbon monoxide reduces the blood's oxygen-carrying capacity, leaving the heart muscle hypoxic and at risk for angina.

Impact on Coagulation:

Long-term smoking increases platelet activity, leading to clot formation. Toxins also disrupt the fibrinolytic system, reducing the effectiveness of plasmin (the enzyme that dissolves clots). This imbalance increases the risk of dangerous thrombosis.

3. Diseases Caused by Smoking

Smoking is a leading cause of many life-threatening conditions:

1. Coronary Artery Disease (CAD):

Smokers are 2 to 4 times more likely to develop CAD. Atherosclerosis, vascular spasm, and clot formation impair blood flow, causing ischemia.

2. Myocardial Infarction (Heart Attack):

When plaques rupture, blood clots block coronary arteries, leading to tissue necrosis and permanent heart damage.

3. Peripheral Artery Disease (PAD):

Smokers are up to 10 times more likely to develop PAD. Vessel narrowing and poor circulation can progress to ischemia, gangrene, and even amputation.

4. Abdominal Aortic Aneurysm (AAA):

Smoking weakens the aortic wall through chronic inflammation, leading to dilation and possible rupture—a life-threatening emergency.

5. Buerger's Disease:

Strongly linked to tobacco use, this disease causes recurrent vessel inflammation, clotting, and obstruction. Symptoms include limb pain, ulcers, and in severe cases, gangrene and amputation.

Beyond the Physical: A Broader Crisis

Cigarettes are not merely a daily habit; they are a hidden wound that damages nearly every organ system. Their effects extend beyond physical illness to psychological, social, and economic burdens:

- » Reduced quality of life
- » Increased healthcare costs
- » Decreased productivity
- » Added stress on families and communities

A Way Forward

The road does not have to end in destruction. Quitting smoking, though difficult, can dramatically improve health and life expectancy. Family support, community resources, counseling, and treatment programs are powerful tools that make recovery possible even after years of smoking.

Ultimately, cigarettes are not only a threat to individual health but also to public health worldwide. Every decision to quit smoking is a step toward regaining control, restoring health, and choosing life over decline.

«Instead of cigarette smoke, fill your lungs with the freshness of spring air and the breeze of life.»

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Atomic Habits

Author: James Clear



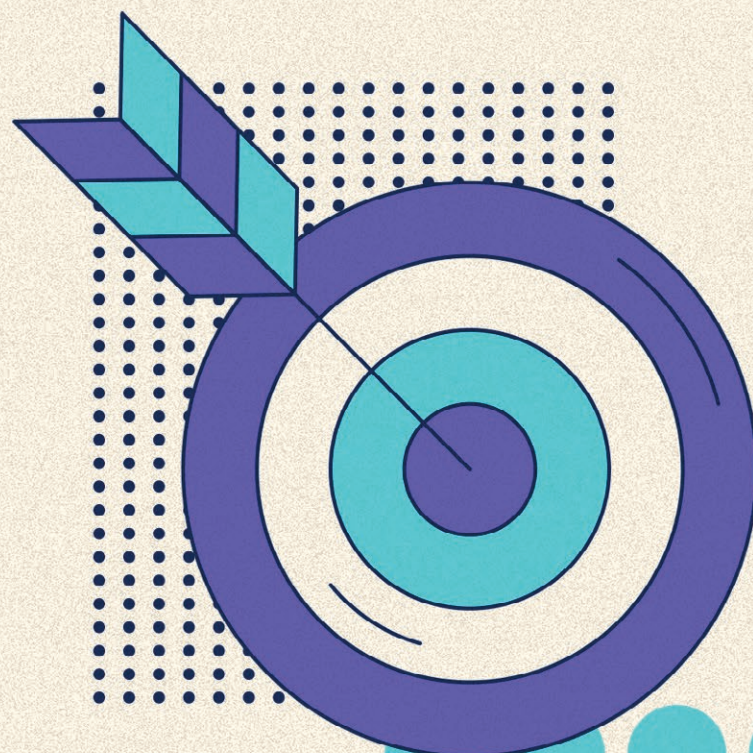
The hidden assumption behind goals is: "When I achieve this, I'll finally be happy." This mindset postpones happiness and limits it to a single outcome. But when you learn to love the process instead of the result, happiness becomes part of the journey, not the destination.

4.Goals are at odds with long-term progress. Achieving a goal is a single event; building systems is a lifelong process. Real progress comes not from chasing outcomes, but from improving the routines that create them.

Final Thoughts

To make noticeable and lasting changes in our lives, habits are the foundation. Every habit good or bad moves us toward a destination. The question is: What kind of destination have you chosen for your life?

The book Atomic Habits shows how, with insights from biology, neurophysiology, and psychology, we can consciously design habits that lead not just to productivity and achievement, but also to peace and meaning in life. May we all choose peace.



Why Do Small Changes Make Big Differences?

In 2003, the fortunes of British cycling changed dramatically. The organization overseeing professional cycling in Great Britain hired Dave Brailsford as chief executive. At that time, British cycling had been mediocre for nearly a century. In fact, performance was so poor that one of the top European bicycle manufacturers refused to sell bikes to the team, fearing their reputation would suffer if others saw British riders using their products. Brailsford's approach was different. His philosophy was rooted in the aggregation of marginal gains: the idea that if you broke down everything that goes into riding a bike and improved each element by just one percent, the cumulative effect would be extraordinary. Five years later, British cycling was completely transformed. At the 2008 Beijing Olympics, the team won nearly 60% of the available gold medals in cycling.

Why Do Small Habits Bring Big Changes?

Most of us think big results require big actions. But in reality, small, consistent habits compound over time into extraordinary outcomes. A 1% improvement may feel invisible in the short term, yet across months and years, the results are undeniable.

Look at it this way: the daily effect of a habit might seem insignificant, but over time it shapes the direction of your entire life.

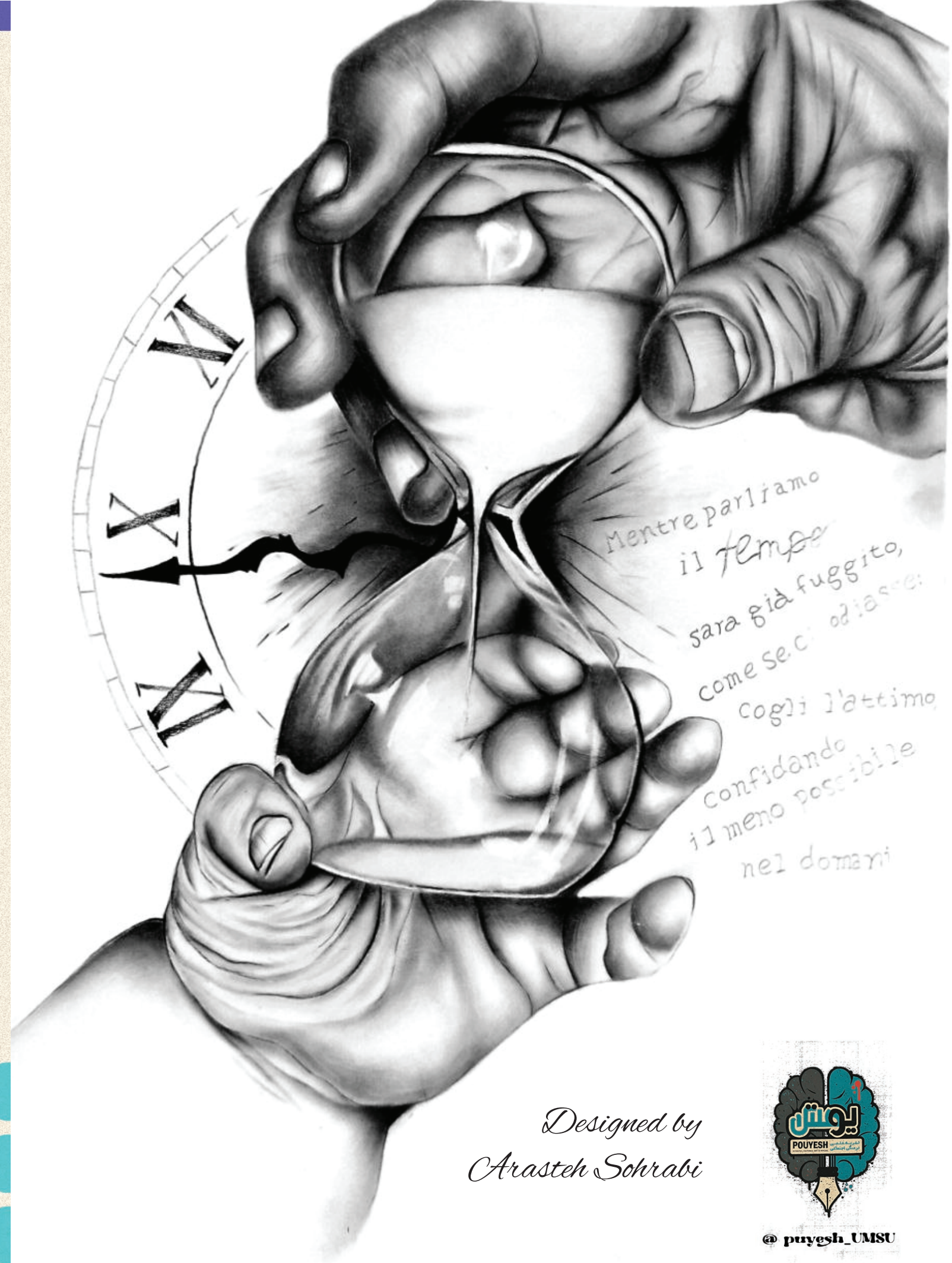
A Friendly Advice

When it comes to achieving success, whether in fitness, career, health, or personal happiness, it's not just about setting goals, but about designing systems. Systems are the methods, processes, and routines that guide us toward long-term success.

For example, if you're coaching a sports team and your goal is to win the championship, that's great! But your real power lies in the system: how you select and train players, how you improve strategies, and how you maintain team morale.

Four Problems with Goal-Setting

1. Winners and losers have the same goals. Every athlete at the Olympics aims for gold. If both winners and losers share the same goal, then the difference lies not in the goal itself but in the systems and habits behind it.
2. Goals create only momentary change. Imagine cleaning your messy room. You might succeed today, but if your underlying habits stay the same, soon the room will be messy again. Sustainable change requires new systems, not just temporary effort.
3. Goals can restrict happiness.



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