INA-RESPOND

INDONESIA RESEARCH PARTNERSHIP ON INFECTIOUS DISEASE

KEMENTERIAN KESEHATAN REPUBLIK INDONESIA

NEWSLETTER

November 2023

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HEALTH POLICY AGENCY
MINISTRY OF HEALTH REPUBLIC OF INDONESIA
2023

MASTHEAD

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FEATURES

INA-RESPOND Newsletter

InVITE & PROACTIVE Study Updates

By: Eka Windari R., I Wayan Adi Pranata, Lois E. Bang, Melinda Setiyaningrum, Nur Latifa Hanum, Retna Mustika Indah, Restu Amalia, Riza Danu Dewantara

InVITE

As of November 13th, 2023, the InVITE study, which initially enrolled 700 participants, has seen a significant portion of its cohort complete their involvement. A total of 617 participants, accounting for 88.14% of the initial group, have concluded their participation, leaving 83 individuals (11.86%) still actively participating in the study. This research is being conducted across three distinct sites, each currently progressing through visit 5. The specific details of these visits, including participant attendance and activities undertaken at each site, are meticulously documented in Table 1.

The study has encountered several issues in maintaining participant retention. Among the 617 participants who have completed their participation:

- A majority of 555 participants (79.29%) successfully completed the study, fulfilling all requirements and protocols as outlined.
- 45 participants (6.43%) chose to withdraw from the study, citing various personal reasons such as individual decisions, personal circumstances, or a loss of interest in continuing.
- 3 participants (0.43%) were excluded from the study as they did not receive the complete vaccine regimen within the stipulated 12-month period post-enrolment.
- 2 participants (0.29%) were discontinued from the study as the continuation was deemed not in their best interest, based on medical or other significant considerations.
- 1 participant (0.14%) displayed non-compliance with the study procedures, leading to their termination from the study.
- 1 participant (0.14%) passed away during the course of the study.
- 10 participants (1.43%) had other varied reasons that led to the cessation of their participation in the study.

Furthermore, the study has been tracking symptomatic visits among participants. Table 2 provides the details of these visits as of November 13th, 2023. It is important to note that while some participants have experienced COVID-19 symptoms, this does not necessarily mean that they have contracted the disease.

Site	Symptomatic Visit		
	# of visit	Positive	Negative
01	104	61	43
02	14	6	8
03	2	1	1
Total	120	68	52

Table 2. Symptomatic Visit Details per Nov 13, 2023

Site	Screening / Visit 1	Enrollment Failure	Enrolled	Ongoing	Add. Visit 1	Visit 2	Add. Visit 2	Add. Visit 3	Visit 3	Agree Ext.	Not Agree Ext.	Ext. Visit 4	Ext. Visit 5
01	345	2	343	55	88	326	314	306	315	285	30	277	219
02	228	1	227	6	97	214	191	188	195	151	44	151	143
03	130	0	130	22		130			129	95	35	95	73
Total	703	3	700	83	185	670	505	494	639	531	109	523	435

Table 1. Details of Visits per site per Nov 13, 2023

INA104

The INA104 (PROACTIVE) study site close-out activity was completed in October 2023, and research documents from the site have been archived with the INDOARSIP vendor. Concurrently, the data management team is undertaking general cleaning of data that has been entered, following thorough quality assurance checks across the site.

The first post-close-out activity involves preparing the final study report. This report, based on an interim report, serves as an attachment for site closure notification to both the central ethics commission (FK-UI RSCM Ethics Committee) and local ethics committees. Notifications, along with the interim report, are slated for submission in December 2023. Additionally, if necessary, these will also be sent to the site Director/Education and Research Department.

The second post-close-out activity focuses on writing a scoping review. This review aims to comprehensively understand HIV research conducted in various fields and identify gaps in HIV research in Indonesia. It encompasses a thorough examination of HIV research reports and outcomes in Indonesia, from the early stages of the epidemic to the present. The Secretariat team, along with Research Assistants, are currently preparing the protocol scoping review. Simultaneously, they have begun searching and reviewing literature on HIV research in Indonesia using two journal databases: Pubmed and Garuda (*Garba Rujukan Digital* / Digital Referral Platform: https://garuda.kemdikbud.go.id/).

The third post-close-out activity is the preparation of manuscripts. The secretariat, study core team, and NIAID team, in collaboration with the PI and Co-PI from each site, are developing three main manuscripts. The first manuscript, focusing on baseline characteristics and predictors of mortality within one year ('Baseline Characteristics and One-Year Mortality'), is in circulation among all teams and is targeted for publication in the Journal of the International AIDS Society.

The other two manuscripts are in the developmental phase. These include an initial analysis of mortality within three years ('Early Analysis of Three-Years Mortality in People Living with HIV') and a study on virological, immunological, disease, and clinical progression ('Clinical, Immunological, and Virological Responses of HIV-infected People with Anti-Retroviral Therapy in a Nationwide Indonesian Cohort'). Current efforts include determining the writing team and assigning specific responsibilities for the writing process. The composition of the writing teams for each manuscript is being decided based on the initial concept plans and the enthusiasm shown by the study sites.

Ethic Type	Ethic Name	Apply for sites
Central EC	FKUI-RSCM EC	510, 530, 540, 550, 560, 570, 590, 600, 630, 640, 650, 660, 670, 680, 690, 700
Local EC	FK-UGM EC	580
	FK RSUP Sanglah EC	520
	RSUD Kab. Tangerang EC	610

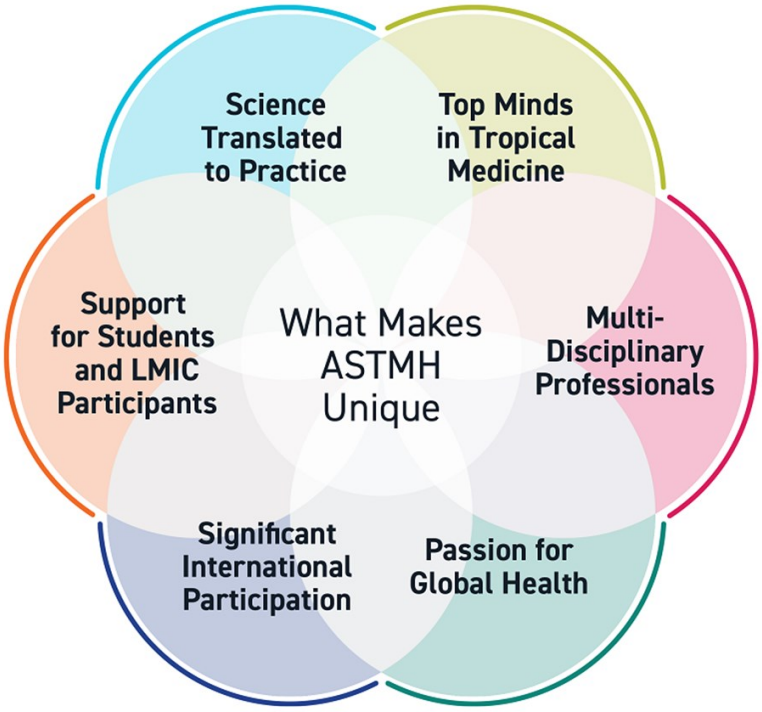
Table 1. Ethic Committee List

INA-RESPOND Newsletter

FROM EVIDENCE TO ACTION

By: Aly Diana

REPORT



The American Society of Tropical Medicine and Hygiene (ASTMH) Conference was held at the Hyatt Regency Chicago in Illinois, USA, from October 18 to 22, 2023. This bustling event hosted 13 simultaneous sessions and attracted approximately 4,300 participants from over 130 countries. The conference covered a broad spectrum of topics, including mosquito-borne diseases, neglected tropical diseases, rarer conditions, and overarching global health challenges, such as climate change.

A focal point of the discussion was malaria, which is the main topic of this brief report. The Alan J. Magill Malaria Eradication Symposium, named in honor of the late Dr. Magill, a former ASTMH President and Malaria Director at the Bill & Melinda Gates Foundation, brought emerging challenges in malaria control and eradication to light. Dr. Magill's strong advocacy for malaria eradication laid the groundwork for the strategies currently being explored and implemented.

David McGuire from the Innovative Vector Control Consortium emphasized vector control, a key method in reducing malaria's burden, especially in Africa. He highlighted its crucial role in the broader strategy of malaria elimination. However, traditional methods like insecticide-treated bednets and indoor spraying campaigns are increasingly compromised due to the rise of insecticide resistance among mosquito populations. This resistance, particularly to the commonly used pyrethroids, has necessitated a shift to newer, more expensive compounds, placing significant financial strain on malaria control programs.

Keziah Malm from Ghana's National Malaria Elimination Programme (NMEP) observed a trend of mosquitoes biting outdoors. This behavioral adaptation reduces the effectiveness of indoor-focused control measures, as it involves different mosquito species. New strategies are needed to address these changing patterns of malaria transmission.

Climate change and urbanization add further complexity to malaria control. Unpredictable rainy seasons, resulting from climate change, disrupt the timing and effectiveness of mosquito-control campaigns. The demographic shift from rural to urban areas also necessitates novel control strategies suitable for urban settings.

Financial constraints are heightened by the emergence of new tools, such as novel insecticides, drugs, and vaccines, intensifying the competition for limited resources. This scenario poses a significant challenge for national and global malaria control programs, which must strategically allocate and prioritize resources.

Gabriel Carrasco-Escobar proposed using satellite and drone imagery for more targeted mosquito control efforts, adapting to the changing ecological and behavioral patterns of mosquitoes. Supplemented by crowd-sourced data from mobile apps, this approach could lead to a more accurate understanding of mosquito populations.

Flaminia Catteruccia discussed innovative strategies to prevent malaria transmission without harming mosquito survival. These include using compounds that inhibit parasite transmission, genetically modified mosquitoes, and bednets infused with anti-malarial medications as alternatives to traditional insecticides. These strategies aim to disrupt the malaria transmission cycle rather than focusing solely on mosquito eradication.

The symposium emphasized the need for fresh thinking in vector control, resonating with Dr. Magill's legacy of innovation and risk-taking. As the fight against malaria enters a new phase, marked by insecticide resistance, behavioral adaptations of mosquitoes, impacts of climate change, urbanization, and financial constraints, innovative, sustainable, and adaptive approaches are increasingly vital. The future of malaria control will likely involve a combination of technological innovation, strategic resource allocation, and a deep understanding of environmental impacts.

Target Malaria is revolutionizing the fight against malaria with its innovative communication strategies, particularly focusing on explaining the intricacies of gene drive technology, which aims to modify mosquito DNA to reduce transmission. Their operations span across Burkina Faso, Ghana, Uganda, and the UK, employing a variety of techniques to bridge the gap between complex scientific advancements and public comprehension. One of their standout projects is a collaboration with Jamie Perera, a sound artist and composer. Perera transformed data from gene drive cage trials into a sonification piece called “Swarm,” which was showcased at the Great Exhibition Road Festival in London. This unique approach, which earned the “Disruptive Communication” bronze award in 2023, provides an immersive experience for visitors, helping them understand how gene drive mosquitoes could potentially reduce malaria mosquito populations.

In addition to technological approaches, Target Malaria places significant emphasis on community engagement through cultural mediums. In Burkina Faso, for instance, they harness the power of theater as a tool for community involvement. Collaborating with local theater companies, they create and perform plays that are not only performed in the local languages but also respect and reflect community customs, making the science behind malaria control accessible and relatable. Another innovative tool in their arsenal is the "Mozzie Drive" card game, co-developed with their modeling team, Dr. Ace North and Dr. Katie Willis. This game, which simulates mosquito migrations, mating, and gene drive releases, has been effectively used in events like the Imperial College’s Great

Exhibition Road Festival to engage audiences and educate them about gene drive technology in an entertaining and understandable way.

Finally, Target Malaria's efforts extend to digital media and on-the-ground outreach. They have developed an animated video series in collaboration with Ryan Carter Images and Emerging Ag, which elucidates their strategies and relationships with various stakeholders. This initiative is key in building trust and facilitating informed decisions within local communities. Additionally, their micro-programs have been successful in rural communities, serving as a modern-day equivalent of the traditional town crier, disseminating vital information about their work in malaria control. Collectively, these diverse communication strategies underscore Target Malaria's commitment to their mission of combating malaria. By adopting this multifaceted approach, they not only advance scientific understanding but also foster support and collaboration in the global fight against malaria.

In the battle against malaria, the role of vaccines is becoming increasingly important. The Malaria Vaccine Implementation Programme (MVIP) has yielded high-impact results that are pivotal in malaria control efforts. Detailed in a symposium co-chaired by John Bawa of PATH and Dr. Rafiq Okine of WHO, the MVIP has demonstrated the substantial effectiveness of the RTS,S/AS01 malaria vaccine in real-world settings in Ghana, Kenya, and Malawi. Over 46 months, the vaccine reduced child mortality by 13% and severe malaria admissions by 22%, with an average coverage of about 65% for the first three doses.

These findings show that the vaccine's uptake is high and it integrates well with existing malaria control measures without affecting the use of insecticide-treated nets, other vaccine uptakes, or health-seeking behaviors. The vaccine's strong safety profile after more than 6 million doses bolsters its suitability for broader use.

The MVIP's success emphasizes the need for equitable vaccine delivery, reaching children across different gender and socioeconomic groups. This approach is central to global health initiatives focused on equity and access.

The insights from the MVIP have shaped WHO's updated recommendations for malaria vaccines, now including both RTS,S and R21/Matrix-M vaccines. This development marks a significant advancement in the global fight against malaria, offering new tools to combat the disease.

The establishment of the GAVI Malaria Vaccine Programme and support for scale-up, as discussed by Dr. Mary Hamel from WHO, highlight the potential of the malaria vaccine to change the landscape of malaria prevention. With GAVI's approval for broad vaccine rollout in 18 countries starting in 2024 and plans for vaccine introduction in at least 28 African countries, the future of malaria control is promising. The anticipation of sufficient vaccine supply, including the availability of a second vaccine, R21/Matrix-M, suggests a new era in the global fight against malaria.

The integration of genomic surveillance into malaria control strategies represents a significant advancement in public health. The use of genomic surveillance to track genetic structures and mutations of malaria-causing Plasmodium parasites and mosquito vectors offers a deeper understanding of disease transmission, severity, and treatment response.

The Wellcome Sanger Institute's Genomic Surveillance Unit, dedicated to malaria, is building integrated malaria molecular surveillance (iMMS) systems in partnership with institutions across multiple countries and regions. This initiative aims to

develop comprehensive genomic surveillance platforms within malaria-endemic countries, enabling them to sample, sequence, and analyze data independently.

Standardizing and harmonizing new genomic surveillance protocols across different laboratories presents several challenges, including ensuring reliable internet connections, managing disruptions in lab supply procurement, and maintaining skilled staff. Overcoming these challenges requires collaborative efforts among international partners.

Four out of the six laboratories supported by this project are already operational, generating crucial malaria data. This model of genomic surveillance, synergizing local capabilities with global support, could potentially be replicated in other regions, enhancing the global response to malaria. Such an approach ensures that research institutions control their data and contribute significantly to public health decision-making at local, regional, and global levels.

This ambitious integration of genomic surveillance into malaria control strategies reflects a broader shift toward innovative and interconnected approaches in combating infectious diseases. As the world faces new and evolving health challenges, the role of genomic surveillance will become increasingly vital. Leveraging this technology can keep the global health community one step ahead in the battle against malaria and other infectious diseases, ultimately saving lives and improving public health outcomes worldwide.

In conclusion, the ASTMH Conference in Chicago brought to light the complex and evolving challenges in malaria control. Innovations in vector control, adaptations to mosquito behavior, and advancements in technologies like gene drive and genomic surveillance were key focal points. The success of the Malaria Vaccine Implementation Programme highlighted the potential of vaccines in reducing the burden of malaria. Efforts in effective communication underscore the importance of engaging communities in the fight against this global health threat. Collectively, these developments mark a significant stride in the multifaceted battle against malaria, emphasizing the need for continued innovation, collaboration, and strategic policy-making in public health.

INA-RESPOND Newsletter

AIR POLLUTION, RESPIRATORY DISEASES, AND OUR STEPS TO ADDRESS

By: Erni, Adhella Menur

SCIENCE CORNER

Breathing is a vital right for every living creature, and good air quality is essential for environmental survival and sustainability. Concerns over air pollution levels continue to grow, as over 95% of the world's population breathes polluted air. Air pollution is described as a 'silent public health emergency' and 'the new tobacco' by Dr. Tedros Ghebreyesus, the World Health Organization's General Director, during the first WHO Global Conference on Air Pollution and Health. It adversely affects our lives, impacting health, society, and the economy. Therefore, understanding air pollution and its impact on health is crucial for society to create a better quality of life.

What is air pollution?

Air pollution is a condition where the air is contaminated with chemical, biological, and physical substances, negatively affecting living creatures and the environment.[1] Often seen as a cloud causing hazy air, commonly known as smog (a combination of 'smoke' and 'fog'), air pollution is assessed through air quality monitoring. This involves measuring the concentration of hazardous substances in an area's air over a certain period. The higher the pollution levels, the worse the air quality and the greater the impact on health.

Table 1. Air Quality Guideline (AQG) level on classical air pollutants

Air Pollutant	Characteristic	Recommended AQG level
Particulate matter (PM)	Mixture of compound with various physical and chemical characteristics which have aerodynamic diameter less than 2.5 µm ($PM_{2.5}$) or 2.5-10 µm (PM_{10}). Source: gases from high temperature vaporation, burning biomass, vehicle traffic emission, burning fossil fuel, agricultural/ industrial emission.	*Annual Mean* $PM_{2.5}$: 5µg/m^3 PM_{10}: 15 µg/m^3 *Short-term (24 hours)* $PM_{2.5}$: 15 µg/m^3 PM_{10}: 45 µg/m^3
Ozone (O_3)	Secondary pollutant in form of atmospheric gas which become oxidant through complex reaction with nitrogen dioxide, volatile organic compounds (VOCs) and light of solar radiation.	*Peak season* O_3: 60 µg/m^3 *8-hours* O_3: 100 µg/m^3.
Nitrogen dioxide (NO_2)	Strong oxidant in form of reddish-brown gas with strong odour which will produce dioxide when react with air and produce nitric acid and nitric oxide when react with water. Source: lightning, bacterial/ volcanic activity, fuel combustion process of engine/ power generation source.	*Annual Mean* NO_2: 10µg/m^3 *Short-term (24 hours)* NO_2 :25 µg/m^3
Carbon monoxide (CO)	An odourless, colourless, tasteless, non-irritant toxic gas. Source: incomplete combustion of carbonaceous fuels.	*Short-term (24 hours)* CO: 4 mg/m^3
Sulphur dioxide (SO_2)	Colourless gas with powerful odour. Source: combustion of sulphur-containing fossil fuels, volcano, coal burning power plant.	*Short-term (24 hours)* SO_2: 40 µg/m^3

What is the source of air pollution?

Most air pollution is man-made, originating from anthropogenic sources such as factory emissions, households, motorcycles, cars, planes, etc. Second-hand cigarette smoke is also considered a form of air pollution. Natural sources, like smoke from wildfires or volcano eruptions, also contribute to air pollution. The WHO releases air quality guidelines, prioritizing six types of air pollutants based on their significant health impact and defining their Air Quality Guideline (AQG) levels[2].

How safe is our breathing air?

According to a WHO statement, 99% of the world's population breathes air that falls below the standardized quality, containing pollutants exceeding AQG levels. From 2010 to 2019, around 6,743 human settlements in 117 countries were monitored for their annual mean concentration of PM2.5, PM10, and NO2 in the air. The results revealed that only 10% of the population in these settlements were exposed to annual mean levels of PM2.5 and PM10 below the AQG level, predominantly in high-income countries of America and Europe[3].

Air quality in high-income countries has improved over the past decade. However, in low- and middle-income countries, pollutant concentrations still exceed the WHO threshold due to overpopulation, economic growth, and urbanization, which increase the burning of fossil fuels[2]. In the Eastern Mediterranean and South-East Asia regions, PM_{10} levels were recorded at approximately six to eight times greater than the AQG level, with none of the countries in these regions meeting the AQG standard for PM annual mean concentration[3].

As part of the South-East Asia region, Indonesia also experiences high pollution levels. The air quality deteriorated drastically during the 1998-2016 period, as $PM_{2.5}$ concentration increased by 171%, making Indonesia one of the twenty most polluted countries globally. In subsequent years, $PM_{2.5}$ concentrations tended to stabilize with minimal changes[4]. The level of $PM_{2.5}$ rose again after wildfires in the Kalimantan and Sumatra areas in 2019, reaching a concentration value of 51.7μg/m^3. Recent data recorded that the level of $PM_{2.5}$ decreased over the last three years, with a concentration value of around 30.4 μg/m^3 in 2022[5]. However, this concentration is still far above

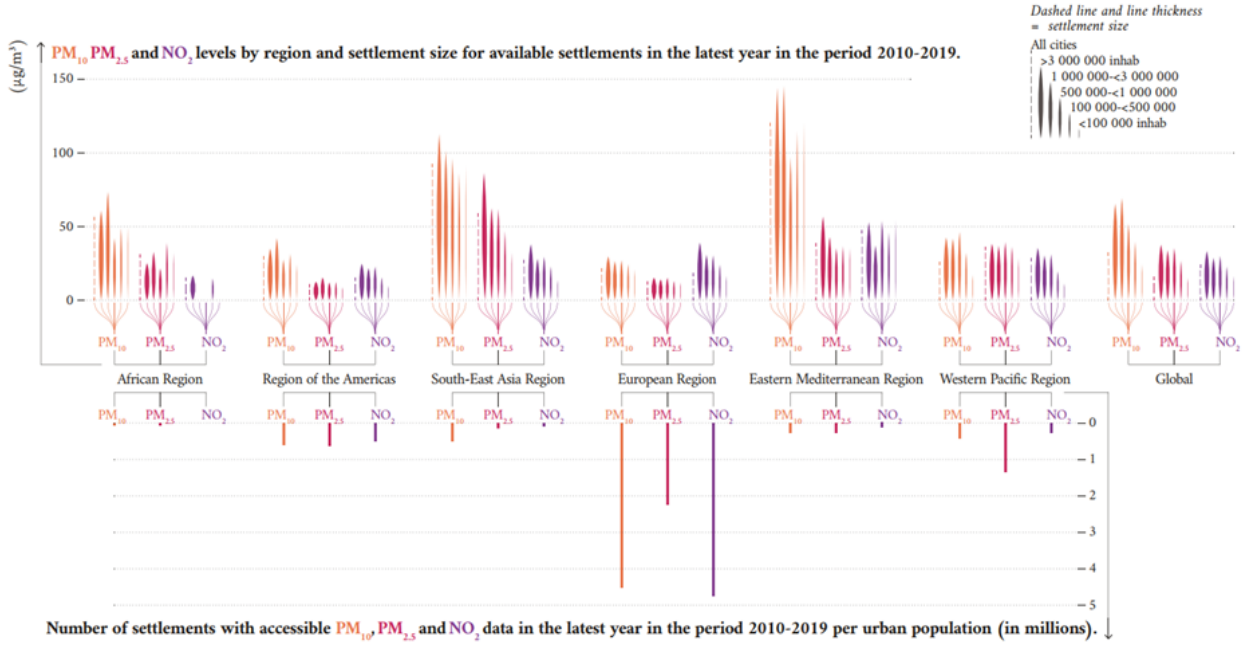


Figure 1. $PM_{2.5}$, PM_{10} and NO_2, annual means and data accessibility, by region and settlement (Source: WHO Ambient Air Quality Database, 2022).

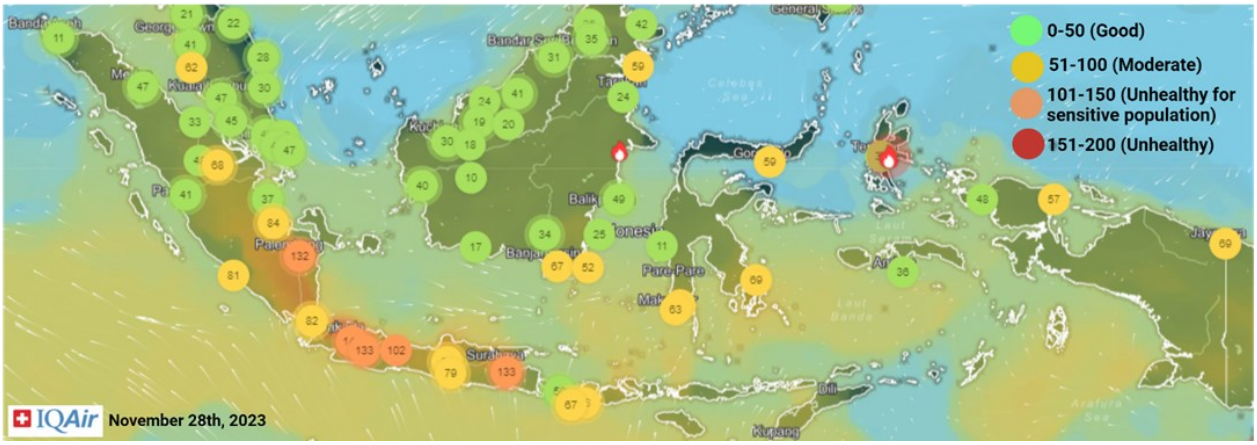


Figure 2. Monitoring of air quality index (AQI) in Indonesia by IQAir. It can be accessed in real-time.

the AQG level for PM annual mean concentration defined by the WHO. Long-term exposure to such unhealthy air, even at low pollutant levels, is known to cause adverse health outcomes. Residents in Jakarta, the capital of Indonesia, face a daily onslaught of smog. Data from the Swiss air quality technology company IQAir shows that Jakarta has consistently ranked among the ten most polluted cities globally since May 2023. The lack of atmospheric moisture during the dry season, combined with high emissions from factories, coal-fired power plants, and traffic congestion, results in dangerously high pollution levels.

How does air pollution impact our health?

Polluted air contains hazardous substances that lead to health and environmental consequences. In 2019, air pollution was estimated to cause 6.67 million deaths worldwide, becoming the fourth leading risk factor after hypertension, tobacco smoking, and unhealthy diets. Exposure to fine particulate matter ($PM_{2.5}$) is a significant factor in respiratory and cardiovascular diseases. Long-term exposure to ambient $PM_{2.5}$ pollution contributed to 62% of all air pollution-related deaths, approximately 4.14 million, in 2019. Generally, short-term exposure to pollutants can cause intoxication, acute respiratory diseases, or trigger existing conditions like asthma. Many parents have reported their children's health issues, which general practitioners and pediatricians confirm with the increasing number of acute respiratory infections and asthma attacks during periods of worsened air pollution. Long-term exposure to air pollution is linked to chronic obstructive pulmonary disease (COPD), lower -respiratory infections (e.g., pneumonia), lung cancer, ischemic heart disease (IHD), stroke, type 2 diabetes mellitus, adverse birth outcomes (e.g., preterm birth, low birth weight), neurocognitive disorders (e.g., Alzheimer's), and other effects (e.g., chronic kidney diseases)[6]. Additionally, the University of Chicago's Energy Policy Institute (EPIC) recently reported that rising air pollution could reduce life expectancy by more than five years per person in South Asia.

How is air pollution potentially linked to respiratory diseases?

Respiratory diseases are strongly associated with air pollution, which leads to high mortality and morbidity rates among other health consequences. State of Global Air data indicates that air pollution contributed to deaths from COPD, respiratory tract infections, and cancer by 40%, 30%, and 19%, respectively[6].

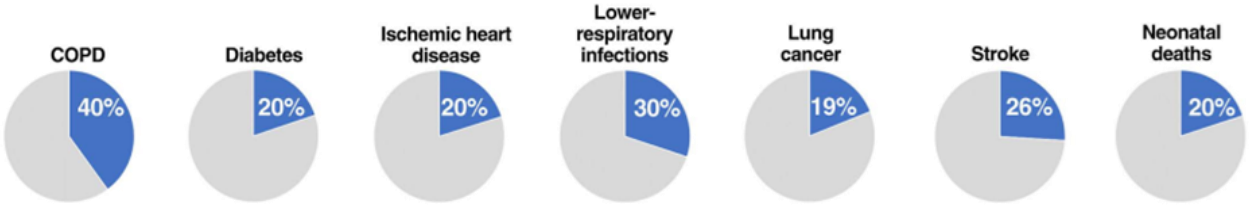


Figure 3. Percentage of global deaths from specific causes attributable to air pollution (Source: State of Global Air 2020).

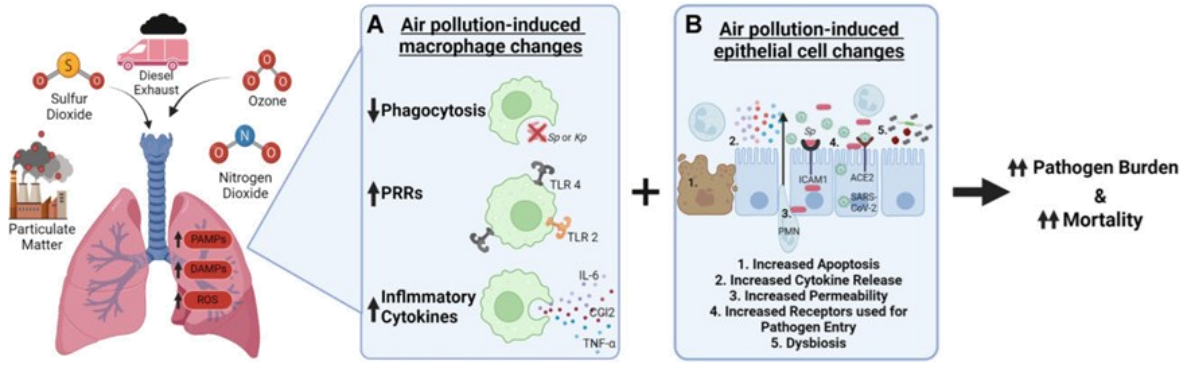


Figure 4. Air pollutants increase respiratory tract pathogen susceptibility by altering cellular responses (Source: Monoson A, et al. 2023, https://doi.org/10.1093/toxsci/kfad003)

Several studies have demonstrated the impact of polluted air on the human respiratory system. Air pollutants alter cellular responses in respiratory cells through four mechanisms [7-8]:

1. Inducing inflammation responses of respiratory tract cells.
2. Impairing macrophage function in pathogen clearance.
3. Altering cellular receptors for pathogen binding.
4. Modulating commensal bacteria within the respiratory tract.

What steps can be taken to address air pollution?

Addressing air pollution needs strong commitment, effort, and consistency from the individual level to stakeholders and policymakers. To effectively address the issue, it is crucial to apply sustainable measures in collaboration with research-based information. Investments supporting affordable and sustainable access to clean energy must be campaigned. Air pollution legislation must be harmonized and updated, and policymakers should decide on designing comprehensive environmental and health protection tools.

As the main source of pollutants is generated by anthropogenic activity, we are responsible for making wise decisions in daily life to reduce air pollution. We can strive to change our way of life to improve the quality of the air we breathe by taking the following simple steps:

- Limit vehicles use by taking public transportation, cycling, or walking to move from one place to another. Choosing to use electric vehicles is an alternative to reducing the number of pollutants produced by fuel combustion.

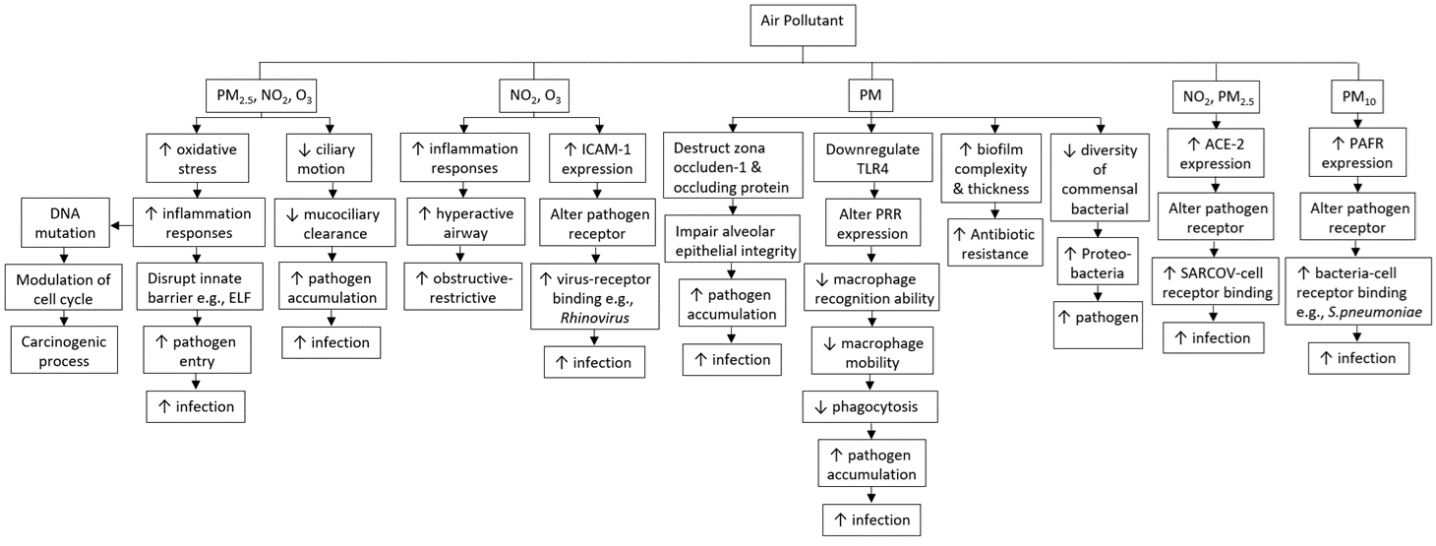


Figure 5. Pathogenesis on how air pollutant induced various respiratory conditions (Source: Monoson A, et al. 2023, https://doi.org/10.1093/toxsci/kfad003 and Bălă GP, et al. 2021, doi: 10.1007/s11356-021-13208-x)

- Save the energy by using the electronic devices wisely. Turn it off whenever the devices are not in use.
- Use renewable energy to provide power, starting from the house. Choose clean energy to cook. Stop burning wood to heat/ cook inside the home.
- Minimize the amount of waste we produce every day. Be responsible with our wastes by sorting, recycling, and composting but never burning the trash.
- Plant and care for trees. Trees filter pollutants and absorb carbon dioxide. Trees also release oxygen into the atmosphere and help cool our homes.
- Monitor the air pollution level daily. Take necessary precautions such as using proper masks, avoiding high-traffic areas, limiting outdoor activities, especially when the air quality is not healthy or in vulnerable conditions, and consuming healthy food rich in antioxidants.
- Keep raising awareness about the dangers of air pollution.

It will be tiring and take time, but a brighter and cleaner future for the next generation and our earth is worth fighting for.

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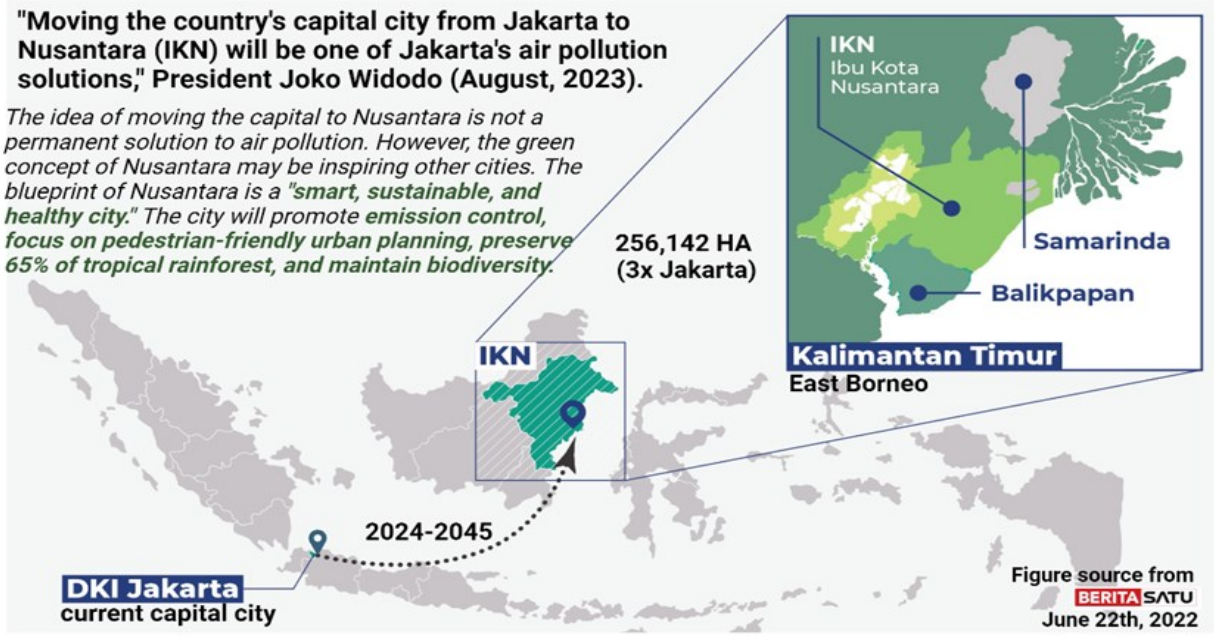


INA-RESPOND Newsletter

BEYOND LITERAL: UNRAVELING THE CHARM OF IDIOMATIC ENGLISH

By: Dedy Hidayat

As you read through this article on the whimsical world of idiomatic expressions, you might notice the photo above. That's me, the author, and I must say, in this particular shot, I'm '*looking like a million bucks*.' This expression, as vibrant and spirited as the idioms we'll explore, perfectly captures the essence of feeling and looking your absolute best. It's not just about the attire or the pose; it's about the confidence and radiance that shines through when everything aligns just right, like how the words in a well-written phrase fit together perfectly.

Idioms make language more interesting and fun. They add color and flavor to our talks in ways that true words can't. They are what make a language what it is, and they often show culture history and shared knowledge. Idiomatic English phrases can be especially hard for people who don't speak English as their first language to understand because they paint pictures that can't be taken literally. From "biting the bullet" in tough situations to "breaking the ice" in a cold room full of strangers, these phrases fill our conversations with vivid images and interesting stories. So, let's take a deep dive into the wide world of English idioms, looking at their interesting roots and how they spice up everyday speech.

"Break the Ice"

Have you ever walked into a room full of people you don't know and felt that chilly awkwardness in the air? Well, that's exactly where the idiom '*break the ice*' comes into play. A long time ago, when large ships would get stuck in icy waters, smaller boats, known as 'icebreakers,' were sent ahead to clear a path. Similarly, in social situations, 'breaking the ice' is all about melting away that initial awkwardness and creating a warm, welcoming atmosphere. It's like being that friendly icebreaker ship in a sea of chilly silence, clearing the way for conversation and laughter.

Think about the last time someone told a joke, shared a fun fact, or even asked a simple question at the start of a meeting or party. They weren't just making small talk; they were 'breaking the ice.' It's a way to ease people into feeling comfortable and connected. So, the next time you find yourself in a room where the air feels a bit frosty, remember that a simple, friendly

gesture or a light-hearted comment can be all it takes to 'break the ice.' It's about turning a room of strangers into a gathering of potential friends, one smile and one conversation at a time."

Examples:

- At the start of the class, the teacher told a joke to *break the ice*.
- During the meeting, we played a short game to *break the ice*.

"Costs an Arm and a Leg"

Have you ever had the sensation of finding something you really desire just to be surprised by its excessive price tag? This is when the expression 'costs an arm and a leg' comes in handy. It's a witty, yet vivid, way of describing that something is so pricey that it feels like you'd have to give up a significant portion of yourself—metaphorically, an arm and a leg—to afford it. Thankfully, we're not talking about actual limbs here, but the word perfectly captures our collective surprise when presented with unexpectedly high cost.

Let's bring this idiom to life with a scenario we can all relate to. Picture yourself shopping for a new laptop, one equipped with the latest features. You find the perfect model, but as soon as your eyes meet the price tag, your jaw hits the floor. Turning to your friend, you might quip, 'This laptop costs an arm and a leg!' It's a light-hearted, slightly cheeky way to comment on the steep price, turning a moment of sticker shock into an opportunity for a shared laugh. Interestingly, this phrase might trace back to a time when portraits were a luxury and including more limbs—arms and legs—in the artwork would ramp up the price. This historical tidbit adds an extra layer of charm to the idiom. So, the next time you stumble upon something with a hefty price tag, lighten the mood by remembering this phrase. It won't lower the price, but it'll certainly inject a bit of humor into the situation and maybe, just maybe, make the price seem a little less daunting.

Source: Cost an Arm and a leg money By toons | Love Cartoon | TOONPOOL

"Bite the Bullet"

This expression is originally from the olden days of surgery without anesthesia, where patients literally had to bite down on a bullet to endure pain. Today, in the office setting, it's less about bullets and more about facing those tough, sometimes uncomfortable tasks head-on. Imagine you've got a report due, and the deadline is looming like a dark cloud. You'd rather be doing anything else, but you know it's important. So, what do you do? You 'bite the bullet.' You hunker down, gather your focus, and tackle the task, no matter how daunting it seems. It's about embracing resilience and determination, especially when the going gets tough. Next time you're faced with a challenging project or a tight deadline, just remember: sometimes, you've got to 'bite the bullet' to achieve great results."

Examples:

- Knowing the dental procedure would be painful, he decided to *bite the bullet* and go through with it.
- She *bit the bullet* and accepted the job offer despite the long commute.

"Spill the Beans"

This expression comes from an ancient Greek voting process, where beans were used to cast votes. If someone accidentally or intentionally tipped over the

jar, the beans would spill, and the results would be prematurely revealed. In modern usage, 'spilling the beans' is about divulging secrets or revealing information. It's a playful way to talk about letting out hidden details, whether in a personal conversation or a professional setting.

In the workplace, it's all about balancing confidentiality with the need for transparency. Let's say you're in on a big company secret – a new product launch, perhaps. Sharing this info before it's time is classic 'spilling the beans.' It can lead to trust issues or even harm the company's plans. However, "spilling the beans" might be needed sometimes, like when a problem that has been kept secret needs to be brought up in a meeting so that the project can move forward.

'Spilling the beans' in a personal relationship usually means telling someone your thoughts or how you feel. People trust you enough to tell you something personal, or you trust them enough to tell them something about yourself. This can make relationships stronger, but you have to be smart about when to share and when to keep quiet.

Examples:

- After weeks of speculation, the manager finally decided to *spill the beans* about the company's expansion plans during the team meeting. Everyone was excited to learn about the new opportunities.
- I couldn't keep it to myself any longer, so during our coffee catch-up, I *spilled the beans* about my surprise trip to Europe. My friends were thrilled and immediately started asking for details.
- "After months of planning, I was ready to propose, but my best friend accidentally *spilled the beans* to my girlfriend. She was still surprised when I popped the question, but the element of complete surprise was gone.

"Don't Hold Your Breath"

The idiomatic expression "*don't hold your breath*" is used to indicate skepticism or to advise someone not to expect something to happen soon, if at all. Its origins, like many idiomatic expressions, are a bit unclear, but the phrase likely derives from the literal act of holding one's breath in anticipation or waiting for something.

In a literal sense, holding your breath is something you can only do for a short period before it becomes uncomfortable or impossible to continue. This physical limitation translates metaphorically into the idiom. When someone says "don't hold your breath," they imply that the anticipated event might take so long to occur that, like holding your breath, waiting expectantly for it would be unreasonable or impossible.

The phrase is believed to have become popular in English-speaking cultures in the 20th century. It's often used in casual conversation to manage expectations, either humorously or seriously, about the likelihood or timeframe of a future event or outcome.

Examples:

- If someone says, "I'm waiting for the city to fix this road," another might respond, "*Don't hold your breath*," implying that the wait could be very long or the event might never happen.
- Upon hearing rumors about a new tech gadget being released soon, the tech blogger commented, 'Interesting, but *don't hold your breath* until the official announcement.

Conclusion: The Rich Tapestry of Language

Idioms bring depth and flavor to our language. They're more than just phrases; they're windows into culture, history, and the human experience. As you navigate through conversations, remember that using an idiom isn't just about speaking; it's about connecting to a rich linguistic heritage. And that's quite a remarkable journey in itself!

INA-RESPOND Newsletter

YOU ARE WHAT YOU EAT

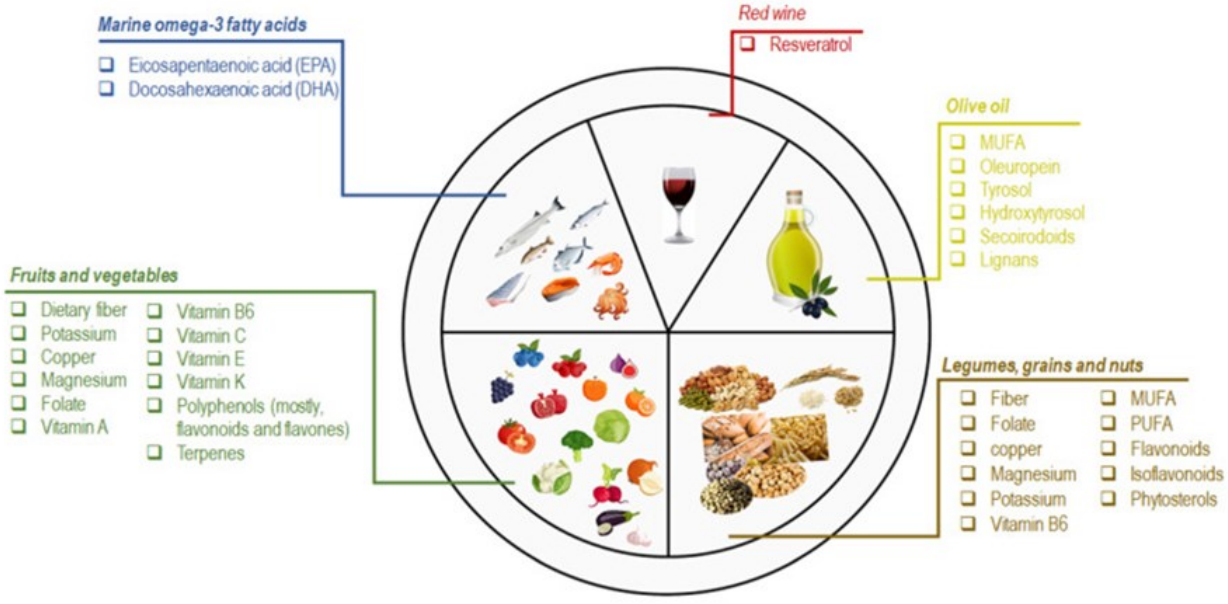
By: Caleb Leonardo Halim

You might have heard the saying, "You are what you eat." This phrase emphasizes the idea that our dietary choices greatly impact our health and well-being. In recent times, the prevalence of overweight and obesity is on the rise, giving rise to numerous dieting methods for weight loss. However, the effectiveness of these diets is often debated. Are they truly beneficial, or merely marketing gimmicks? Let's explore some of the popular diet variations that are currently in practice.

Keto Diet: The ketogenic, or keto, diet is well-known for its effectiveness in weight loss. This diet is characterized by a low carbohydrate intake (5-10%) and a high fat intake (55-60%), with proteins comprising 30 -35% of the total daily calories. The aim is to shift the body's metabolism into a state known as ketosis, where fats are burned as the primary energy source. This diet is backed by substantial research and has shown potential benefits in reducing the risk of diseases such as type 2 diabetes, hyperlipidemia, heart disease, and cancer.

Mayo Diet: Originating from the Mayo Clinic in the United States, this diet focuses on modifying daily lifestyle habits, including an increased consumption of fruits and vegetables as well as increased non-sedentary time. In contrast to the keto diet, the Mayo Diet does not impose restrictions on carbohydrate intake. The diet balances carbohydrates, proteins, and fats, maintaining an overall caloric control.

Mediterranean Diet: Also known as the MedDiet, this diet has been around since the 1960s. It is based on the dietary patterns of the Mediterranean region and is associated with low rates of chronic diseases and high life expectancy. The MedDiet is characterized by a high intake of plant foods, olive oil as the



main fat source, moderate dairy and poultry consumption, limited red meat intake, and moderate wine consumption during meals. Its benefits are attributed to anti-inflammatory and antioxidant properties, particularly effective in controlling obesity and waist circumference.

DASH Diet: The Dietary Approaches to Stop Hypertension (DASH) diet has been prevalent since the 1990s. It was developed from a research project by the National Institute of Health (NIH) focused on dietary interventions for hypertension. This diet promotes the consumption of vegetables, fruits, lean meats, and dairy products, while reducing sodium intake to about 1500 mg/day. It emphasizes fresh, minimally processed foods and has been recommended as a therapy for hypertension in conjunction with lifestyle modifications.

Flexitarian Diet: The Flexitarian, or semi-vegetarian, diet primarily consists of vegetarian foods with occasional inclusion of meat or fish. It does not strictly limit macronutrients, allowing individuals to adjust their dietary patterns while reducing meat or fish protein intake. Emerging evidence points to its benefits in weight management, metabolic health improvement, blood pressure control, and reduced risk of type 2 diabetes.

Vegetarian Diet: The vegetarian diet, with its roots tracing back to 3200 BC in Egypt, varies widely. It ranges from the Flexitarian diet, which includes occasional meat consumption, to Pescatarian (seafood but no meat), Ovolactovegetarian (no meat or fish, but includes eggs and dairy), and strict vegetarianism (excludes all animal-derived foods). Vegetarian diets are often associated with weight loss, possibly due to their high fiber and low protein content.

Intermittent Fasting Diet: Intermittent fasting (IF) is a dieting practice that alternates between periods of unrestricted eating and fasting. For example, the 16/8 method involves 16 hours of fasting followed by an 8-hour eating window. This diet has no food restrictions during the eating period. IF is known for its beneficial effects on body weight, insulin resistance, cardiovascular risk reduction, and decreased inflammation.

Ultimately, the choice of diet depends on individual preferences and health goals. For effective weight loss, *maintaining a total daily calorie deficit is crucial*. Moreover, combining a diet program with regular exercise is vital for achieving ideal body weight and good body composition, including sufficient lean body mass. Lean body mass and muscle mass are important for maintaining a high quality of life. Therefore, a balanced approach to diet and exercise is essential for a healthy and fulfilling life.

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INA-RESPOND Newsletter

SHARING IS CARING: HOW DATA COLLABORATION TRANSFORMS HEALTH RESEARCH

By: Aly Diana

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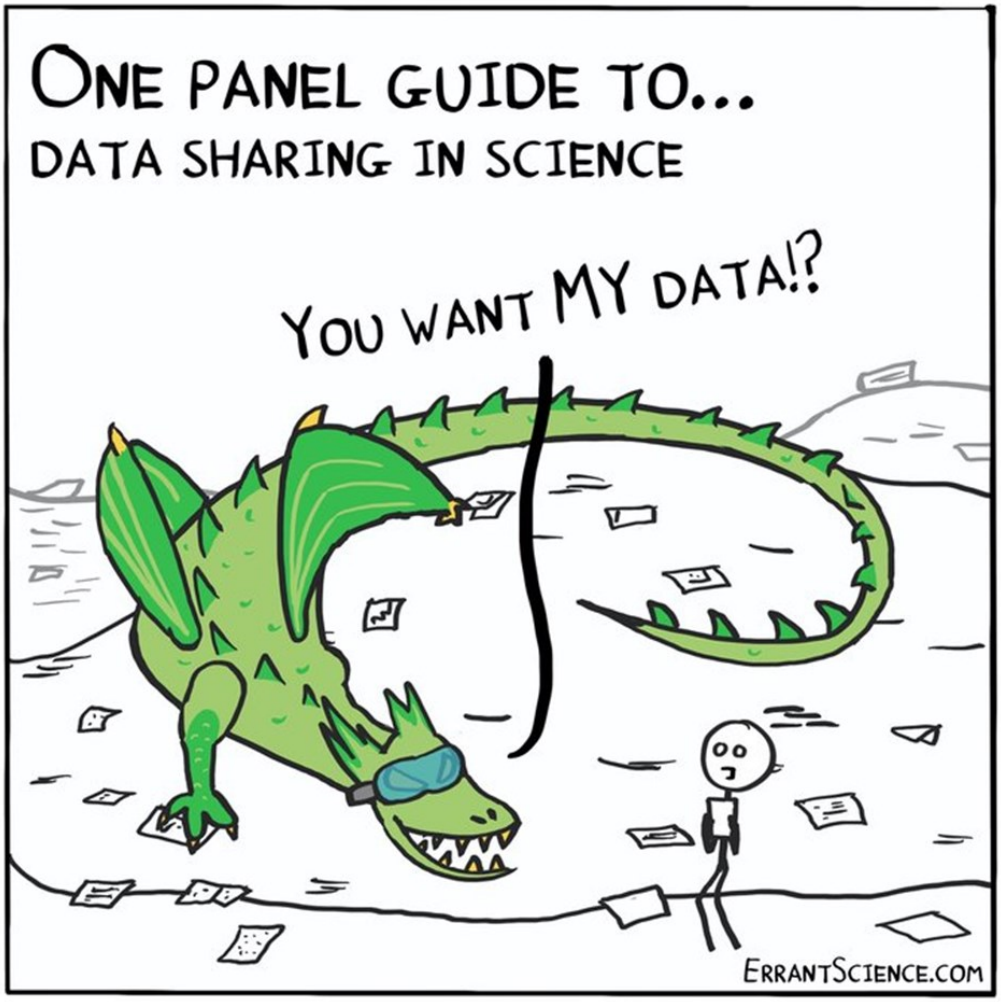

The integration of data sharing practices in health research marks a pivotal advancement in scientific discovery and public health. This shift towards open science is revolutionizing how we approach medical research, yielding profound benefits for society as a whole.

Maximizing Utility of Research Data

The primary advantage of data sharing lies in maximizing the utility of research data. This approach ensures that the contributions of trial participants are used effectively, thereby enhancing public health outcomes. In fields such as malaria and neglected tropical diseases, sharing research data facilitates secondary analyses, filling critical knowledge gaps without necessitating additional patient enrollment. This not only reduces risks associated with patient participation but also accelerates scientific discovery.

Strengthening Evidence for Underrepresented Groups

Another significant benefit of data sharing is the ability to pool data from various sources. This pooled data can then be used for comprehensive meta-analyses, addressing questions beyond the scope of individual trials. Such an approach is particularly crucial in strengthening evidence for underrepresented groups in medical research, ensuring that findings are inclusive and representative of diverse populations.

Challenges in Data Sharing

Despite these benefits, the path to effective data sharing is fraught with challenges. A primary concern is the identification and location of relevant data sets. Platforms like the Infectious Disease Data Observatory (IDDO) address this by issuing Digital Object Identifiers (DOIs) for each dataset, facilitating data discovery. However, challenges persist in persuading researchers to share their data and ensuring its understandability across different research contexts.

IDDO's Role in Enhancing Interoperability

IDDO plays a crucial role in enhancing the interoperability and reusability of data. Their curation process, which involves enriching raw data with international standards and terminology, makes data more accessible and understandable across diverse research contexts. This process is vital in fostering a collaborative research environment.

WHO's Contribution to Data Sharing Guidelines

The World Health Organization (WHO) has been instrumental in establishing data sharing guidelines. In collaboration with partners like IDDO, WHO has developed policies and technical guides that advocate for the global benefits of sharing research data. Their policy, which aligns with the FAIR principles (Findable, Accessible, Interoperable, Reusable), is crucial for ethical and equitable data sharing. This approach ensures that data can be used for secondary analysis without compromising personal privacy and facilitates the replication of studies.

Impact of Data Sharing on Research Visibility

Research has shown a 25% increase in citation rates for studies with shared data. This demonstrates that data sharing is not only beneficial for the broader community but also advantageous for data providers and users. It promotes transparency and accountability, completing the research cycle and fostering a mutually beneficial situation for all stakeholders.

Handling Technical, Ethical, and Legal Aspects

The WHO guide offers practical advice on managing technical, ethical, and legal aspects of data sharing. This ensures that even sensitive patient data is shared responsibly. Compliance with this guidance is mandatory for research funding from WHO, reflecting their commitment to improving health research data sharing standards.

Implications and Future Directions

The shift towards data sharing in health research is more than just a procedural change; it represents a paradigm shift in how scientific research is conducted. By adopting these practices, the global health community is better positioned to make significant strides in understanding and addressing infectious diseases, ultimately enhancing public health worldwide.

Conclusion

In conclusion, the movement towards open science and data sharing in health research is a significant step forward. The collective efforts of organizations like WHO and IDDO, along with the intrinsic benefits of this approach, are forging a path for more collaborative, transparent, and effective scientific research. As this trend continues, we can expect to see more rapid advancements in health research, with direct benefits to public health globally.

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