

INA-RESPOND

INDONESIA RESEARCH PARTNERSHIP ON INFECTIOUS DISEASE



NEWSLETTER

July 2022

Science Corner

*Lesson learned from COVID-19;
Mental Health Issue on
Healthcare Workers*

Comic Corner

P-Value: Friend or foe?

Sports & Lifestyle

*Enhancing Sleep Quality
Through Exercise*



HEALTH POLICY AGENCY
MINISTRY OF HEALTH REPUBLIC OF INDONESIA

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INA-RESPOND newsletter

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TRIPOD, PROACTIVE, & ORCHID Study Updates

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

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All Tripod PIs had a meeting to respond to the comments from manuscript #1 reviewers. Some concepts for future manuscripts discuss will be discussed on site.

We submitted two papers from the TRIPOD study:

- “The Characteristics of Drug Sensitive and Drug-Resistant Tuberculosis Cases in Indonesia” to the American Journal of Tropical Medicine and Hygiene on 22nd February 2022. We are preparing the response for paper #1 reviewer for a re-submission.
- “Performance of Xpert TB/RIF and Sputum Microscopy Compared to Sputum Culture for

Diagnosis of Tuberculosis in Seven Indonesian Hospitals” to the Frontiers in Medicine - Infectious Diseases - Surveillance, Prevention, and Treatment on 31 March 2022. We just received comments from 1 reviewer for paper #2.

Bandung BBLK has completed the work on subculturing the TRIPOD isolate samples on the baseline and extracted them for the mTB DNA. Twenty five of them did not grow, 258 samples have been shipped to the INA-RESPOND’s Reference Laboratory, and about 18 samples are still at BBLK Bandung waiting for the next available shipment to the INA-RESPOND’s Reference Laboratory.

STUDY UPDATES

INA104

Per 8 July, 2,169 subjects have already completed the study until follow up visit month 36. 236 subjects died, 196 subjects were lost to follow up, 32 subjects withdrew their consent, 32 subjects moved to a city without PROACTIVE Site, 5 subjects had HIV negative, and 1 subject was suspended (imprisoned).

The picture above shows the study progress from each Site

PROACTIVE Study Progress July 2022

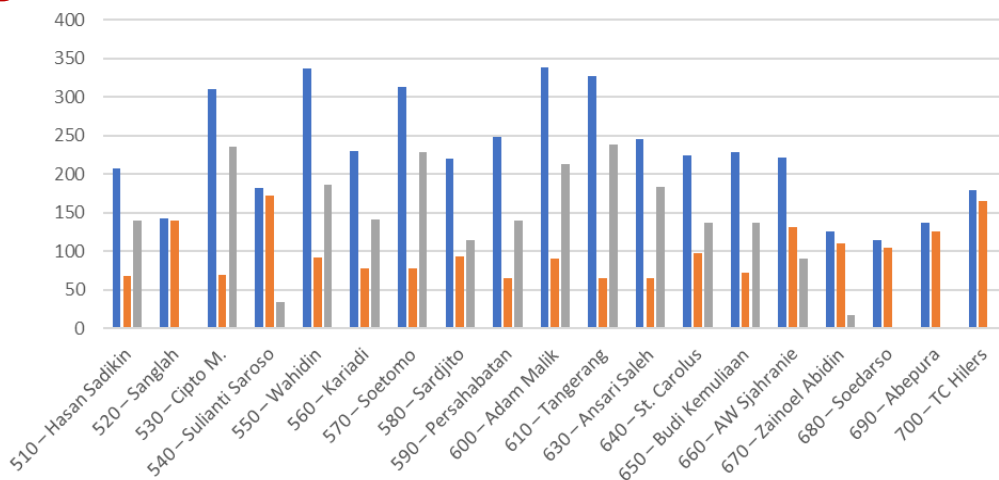


Figure 1. Site’s study progress

Monitoring in July 2022 is conducted at site 520 from 19-21 July and at site 560 from 26-28 July 2022.

Table 1. Subjects' end of study reasons

No	Site	End of Study Duration/Complete	Withdrew Consent	HIV negative	Moved	Death	Investigator Discretion	Lost to Follow Up	Other	Total
1.	510 – RSUP Dr. Hasan Sadikin	235	0	0	0	17	0	9	0	261
2.	520 - RSUP Sanglah	186	0	0	5	24	0	48	0	263
3.	530 – RSUPN Dr. Cipto Mangunkusumo	141	1	3	0	15	0	8	0	168
4.	540 – RSPI Dr. Sulianti Saroso	229	13	0	4	21	0	12	0	279
5.	550 – RSUP Dr. Wahidin Sudirohusodo	115	1	0	4	4	0	24	0	148
6.	560 – RSUP Dr. Kariadi	140	0	1	0	37	0	13	0	191
7.	570 – RSUD Dr. Soetomo	213	3	0	2	21	0	33	0	272
8.	580 – RSUP Dr. Sardjito	238	6	0	4	19	0	16	2	285
9.	590 – RSUP Persahabatan	183	1	0	1	7	0	6	0	198
10.	600 – RSUP Dr. H. Adam Malik	137	0	0	0	1	0	2	0	140
11.	610 – RSU Kabupaten Tangerang	137	3	0	5	9	0	14	0	168
12.	630 – RSUD Dr. M. Ansari Saleh	90	0	0	2	5	0	10	0	107
13.	640 – RS St. Carolus	72	1	0	2	4	0	0	0	79
14.	650 – RSU Budi Kemuliaan Batam	35	0	0	2	6	0	1	0	44
15.	660 – RSU A. Wahab Sjahranie	17	0	0	0	11	0	0	0	28
16.	670 – RSUD Zainoel Abidin	0	0	0	0	11	0	0	0	11
17.	680 – RSUD Soedarso	0	2	1	1	7	0	0	0	11
18.	690 – RSUD Abepura	0	1	0	0	14	0	0	0	15
19.	700 – RSUD TC Hillers	1	0	0	0	3	0	0	0	4
Total		2169	32	5	32	236	0	196	2	2672

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Based on uploaded CRFs as of 05 July 2022, 184 participants were enrolled in the ORCHID-COVID-19 study, with 115 from site 610 (RSU Kabupaten Tangerang, Tangerang) and 69 from site 521 (RS Universitas Udayana, Denpasar). 173 (94%) participants have completed the visits, six (3%) participants decided to discontinue their participation in the study (categorized as other), and five (3%) participants died during the study (figure 1). In terms of deaths, 2 participants from site 610 died because of COVID-19 and heart failure, while 3 participants from site 521 died from pulmonary embolism; non-ST-segment Elevation Myocardial Infarction; and non-hemorrhagic stroke & thromboembolism.

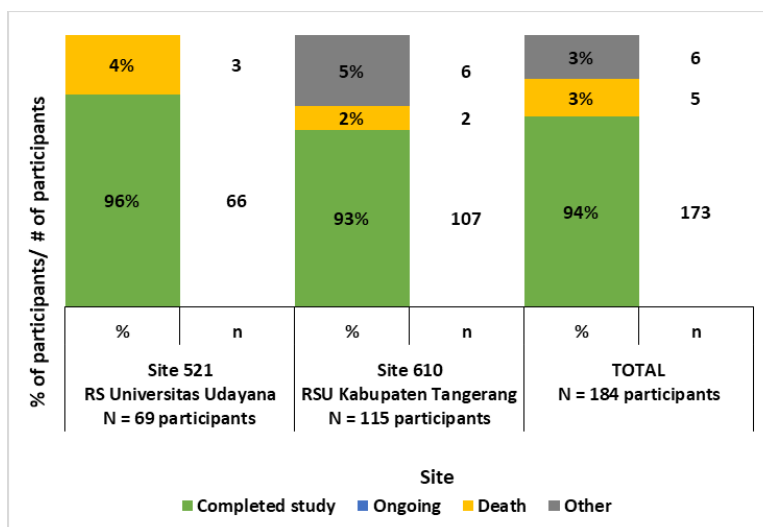


Figure 1. Participant status per site based on uploaded CRF as of 5 July 2022

As of 5 July 2022, a total of 153 (83%) participants was positive COVID-19 while 31 (17%) participants had negative COVID-19. In site 610, the number of participants with positive COVID-19 was 105 (91%) and 10 (9%) participants were negative COVID-19. On the other hand, in site 521, there were 48 (70%) participants with positive COVID-19 and 21 (30%) participants were negative COVID-19 (figure 2).

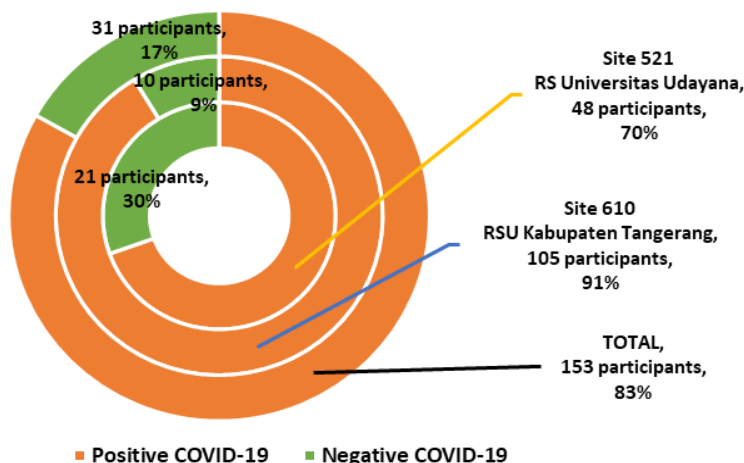


Figure 2. COVID-19 cases at enrolment based on uploaded CRF per 5 July 2022

In site 521, SARS-CoV-2 was identified in 47 (69%) participants based on the pathogen identification data. SARS-CoV-2 and Dengue (confirmed by PCR SARS-CoV-2 and RDT Dengue IgM) co-infection were identified in 1 (1%) participant. Among negative COVID-19 participants, dengue (confirmed by RDT Dengue NS-1) was also identified in 3 (5%) participants. Meanwhile, based on the data from site 610, SARS-CoV-2 was identified in 103 (90%) participants. SARS-CoV-2 and dengue (confirmed by PCR SARS-CoV-2, RDT Dengue NS-1, and RDT Dengue IgM IgG) co-infection were identified in 2 (2%) participants. Among negative COVID-19 participants, influenza (confirmed by PCR) was identified in 2 (2%) participants. Dengue (confirmed by RDT Dengue NS-1 and RDT Dengue IgM IgG) was also identified in 1 (1%) participant. Overall, the pathogen among 25 (14%) negative COVID-19 participants (18 participants from Site 521 and 7 participants from site 610) was still unidentifiable (figure 3).

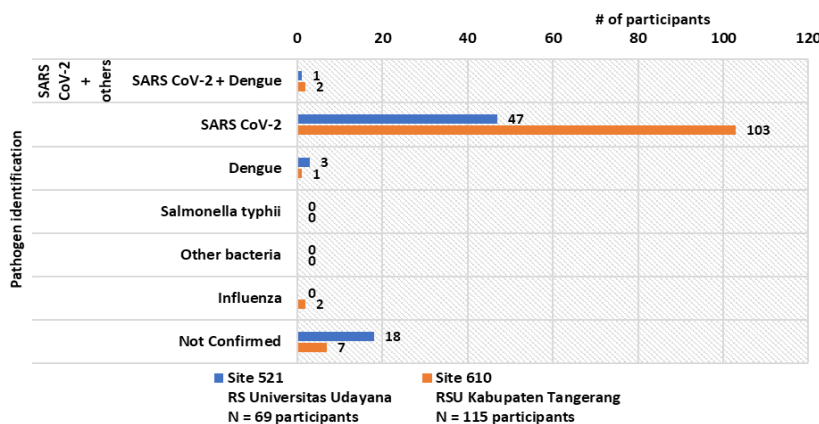


Figure 3. Pathogen identification based on uploaded CRF per 05 July 2022

hospital to elaborate on the cause of disease for the specimen available or subjects that may suffer from any disease with unknown etiology. Meanwhile, the closure of the recruitment and study process for protocol Annex 1. ORCHID-COVID-19 is expected to end by the end of August 2022.

Several calls with John Power and NIAID team will be planned to discuss manuscripts data based on available FluPRO questionnaire data as the primary concern in the ORCHID-COVID-19 publication. The data is expected to become the first analysis report as the COVID-19 situation in Indonesia moves toward endemic status.

The submission of new ethical clearance for ORCHID general protocol will be directed to a new EC/IRB (KEPK Poltekkes Jkt II) since the central IRB can no longer process any recent/amendment of the protocol. The submission is planned to be submitted in early July 2022. With the proposed five sites as the main/core of the ORCHID general study, the INA-RESPOND team hopes that it will help the site/

INA-RESPOND Newsletter

PROFILE: SC MEMBER AT SITE 570-RSUD. SOETOMO, SURABAYA

By: Research Assistants at Site 570: Devy Putri Zennita, Jordan Fahmi, Myrna Evanda Adeline

PROFILES



Prof. Dr. dr. Usman Hadi, Sp.PD (K) KPTI

Prof. Usman Hadi was born in Temanggung on June 30, 1954. He is a member of the Steering Committee of the INA-RESPOND network and a Principal Investigator at Site 570, Dr. Soetomo General Academic Teaching Hospital, Surabaya. He is also a teaching staff in the Tropical and Infectious Division of the Department of Internal Medicine, Dr. Soetomo General Academic Teaching Hospital, Surabaya.

Since his childhood, Prof. Usman has always wanted to become a doctor. He moved to Surabaya in 1974 to study at the Faculty of Medicine, Universitas Airlangga, and graduated as a doctor in 1981. Then, he devoted himself to Lombok, NTB through the *InPres* implementation program and became interested in internal medicine, especially becoming a consultant for tropical and infectious diseases in Indonesia after he found many cases of malaria and various other infectious tropical diseases. He then took his Internal Medicine Specialist Education at the Faculty of Medicine, Universitas Airlangga, and graduated in 1990. He continued his service as a specialist in Pacitan, East Java, Indonesia, and became staff at the Faculty of Medicine, Universitas Airlangga. After that, Prof. Usman took his Ph.D. for four years at Leiden University, The

Netherlands, and produced many publications related to his research on Antibiotic Resistance due to the irrational use of antibiotics in Indonesia.

Prof. Usman, who is also the Chair of the Ethics and Medical Committee at RSUD Dr. Soetomo, enjoys doing research and acknowledges the role of INA-RESPOND in advancing infectious disease research in terms of its quality and developing the human resources/capabilities. Developing Human Resources always takes more time and effort, but through INA-RESPOND, members of the network are always encouraged to be more active and creative in conducting research, aiming for the highest quality standard; this is a culture that he believes needs to be nurtured. He hopes that INA-RESPOND sites can grow in number and create a robust multicenter network for the good of Indonesia's citizens and global population. Moreover, he wishes that the collaboration between INA-RESPOND and Dr. Soetomo General Academic Teaching Hospital, Surabaya, and the Faculty of Medicine, Universitas Airlangga, will remain solid and beneficial.

Finally, there are three things that Prof. Usman holds dear as the basis for living his life: 1) always be grateful for every favor, work, and sustenance that we get, so we can continue growing and feel enough to stay humble, 2) be diligent in carrying out any task assigned, trusted, or mandated, 3) always be sincere in facing the challenges and trials life throws at us.

"The best humans are those who are most beneficial to others – HR. Ahmad".

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BRIEF BIOGRAPHY: RAY Y. CHEN, MD, MSPH

By: Ray Y. Chen



Ray Y. Chen, MD, MSPH

Ray Chen is the deputy branch chief of the Collaborative Clinical Research Branch (CCRB), in the Division of Clinical Research (DCR) of the National Institute of Allergy and Infectious Diseases (NIAID), US National Institutes of Health (NIH), a position for which he was recently selected in 2022. He was born in Washington, DC, and received his undergraduate degree in biochemistry from the University of Virginia, followed by his Medical Doctor degree from the Medical College of Virginia/Virginia Commonwealth University in Richmond, Virginia. He trained in Internal Medicine at the Thomas Jefferson University Hospital in Philadelphia, Pennsylvania, followed by a fellowship in Infectious Diseases at the University of Alabama at Birmingham (UAB). His fellowship training focused on HIV observational database research, which he combined with a Master's of Science in Public Health (MSPH) with a concentration in epidemiology at the UAB School of Public Health.

Upon completing his infectious diseases training in 2003, Dr. Chen moved to Bethesda, Maryland, to work for the NIAID Division of AIDS and was based in Beijing, China, from 2004-2012, where he administered the larger NIAID research grants in China, primarily in HIV, influenza, and tuberculosis. He worked closely with the US and Chinese investigators to develop clinical research infrastructure at research sites, conduct clinical trials to international standards, and analyze data and publish research results, including data from the China National HIV Epidemiology and Treatment Databases.

In 2012, Dr. Chen moved back to Bethesda, Maryland, and joined the Tuberculosis Research Section (TRS), Laboratory of Clinical Immunology and Microbiology, Division of Intramural Research, NIAID as a staff clinician/associate research physician. From 2012-2022, he led the TRS clinical research team in conducting interventional, randomized clinical trials in South Korea, China, and South Africa on new treatment and diagnostic methods for drug-sensitive and drug-resistant tuberculosis. His largest trial, called PredictTB, was a drug sensitive pulmonary tuberculosis treatment shortening trial, where participants who met pre-specified baseline and treatment response criteria were randomized to receive 4 vs 6 months of standard treatment. This trial was conducted at 5 sites in China and 5 sites in South Africa. The study was recently concluded, and the results are now being prepared for publication. He has co-authored over 50 articles published in peer-reviewed journals, including in *New England Journal of Medicine*, *Lancet*, *Science Translational Medicine*, *Nature Medicine*, *Annals of Internal Medicine*, *British Medical Journal*, *Lancet Infectious Diseases*, *Lancet Microbe*, *Clinical Infectious Diseases*, and *Antimicrobial Agents and Chemotherapy*.

Dr. Chen enjoys conducting clinical research and collaborating with others in conducting clinical research, including in study design, study conduct, data analysis, and publication. He is excited that his almost 20 years of research experience in different parts of NIAID and in different parts of the world has prepared him extremely well to collaborate with the different DCR Special Projects. He looks forward to building on the strong clinical research foundation already established in each country and to working closely with and learning from our host country partners to conduct novel clinical trials that will change treatment paradigms not only in those countries but across the world.

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LESSON LEARNED FROM COVID-19; MENTAL HEALTH ISSUE ON HEALTHCARE WORKERS

By: Retna Mustika Indah



SCIENCE CORNER

The outbreak of coronavirus disease 2019 (COVID-19), which started in China in December 2019, has proliferated in other Europe, America, Australia, Africa, and Asian countries, including Indonesia. In addition to endangering human health and consequently causing deaths, COVID-19 imposes irreversible psychological impacts on human societies. It is natural for individuals to feel fear, sadness, and anxiety during a crisis. Indeed, fear of the virus is spreading even faster than the virus itself. In this COVID-19 conjuncture, people can be fearful about becoming ill and dying, losing livelihoods and loved ones, and being socially excluded. People who test positive for COVID-19 must cope with anxiety about their condition, physical discomfort, separation from loved ones, isolation, and possible stigma. Those who have loved ones affected by COVID-19 are facing worry and separation.¹ Many people worldwide are suffering from loss of livelihoods and opportunities. Some people turn to alcohol, drugs, and potentially addictive behaviors such as gaming, shopping online, internet, or eating disorders.²⁻⁷ Domestic violence has increased. Finally, people experiencing the death of a family member due to COVID-19

may not have the opportunity to be physically present in their last moments or to hold a proper funeral ceremony, which may disrupt the grieving process.⁸ At the press conference of The 5th ASEAN Health Ministers Meeting (AHMM) on May 2022, The Director for Mental Health, Ministry of Health Republic of Indonesia, highlighted that this COVID-19 pandemic had increased the prevalence of mental health disorders to 1-2 fold compared to before the pandemic, and affected various groups of the population.⁹ In many pandemic episodes, the general population and the healthcare workers who are more at risk for infection and transmission also present similar psychological distress.¹⁰⁻¹² Frontline workers such as doctors, nurses, and ambulance drivers, are exposed to additional stress during the COVID-19 pandemic. They experience stigmatization, higher demands during work, and fear of spreading COVID-19 to their families, not to mention the physical strain they have to endure while wearing protective equipment and the physical isolation to which they have to submit themselves to protect their families.

It cannot be denied that many countries have no ade-

quate healthcare system and infrastructure to deal with the pandemic situation.^{13, 14} The shortage of healthcare workers is aggravated by high mortality among those treating COVID-19 patients¹⁵, resulting in higher workload and longer working hours for the remaining personnel, especially when the number of COVID-19 patients continues to increase. Moreover, similar to other countries, there is a lack of personal protective equipment (PPE) for healthcare workers on duty. This shortage is worsened by the public's panic buying and stockpiling of medical-grade PPE.^{13, 14} Other than that, the number of hospitals, bed capacities, and supporting facilities to treat COVID-19 patients, such as negative pressure wards and Intensive Care Unit rooms, are lacking and also not evenly distributed in Indonesia.¹³ The lack of facilities puts healthcare workers in a difficult position, where they must decide to whom treatments should be given.¹⁶ The abovementioned issues might explain why healthcare workers in Indonesia are more prone to adverse mental health symptoms than the general population.

Several interventions have been implemented to support the healthcare workers in minimizing the impact of the COVID-19 pandemic on their mental health. Some focus areas, such as training the healthcare workers and strengthening the logistics and supply chain, should be prioritized and require a relentless commitment. Knowledge regarding the infection causing the pandemic and its prevention was deemed important to reduce the worries of healthcare workers.¹⁷ Updated information, including infection guidelines, hospital procedures, and even operation of common medical protective equipment should be well provided and reachable. Online platforms that are growing rapidly nowadays make it more possible to achieve this goal. After taking serious attention to the infrastructure and facility, psychosocial intervention might play important role in supporting the mental health of healthcare workers. Lesson learned from the previous pandemic; psychosocial training can improve resilience to pandemic-related stress.^{18, 19} Mental health consultants or peer group support and offered assistance to healthcare workers may help the healthcare workers to adapt to the stresses created by the epidemic.¹⁷ Some cases might require therapy and rehabilitation, however, studies found that Cognitive

Behavioural Therapy²⁰⁻²² and music therapy²³ were effective to relieve specific mental symptoms such as stress, depression, PTSD, anxiety, behavioral changes, or psychotic symptoms.

Besides the psychosocial intervention, organizational support during the pandemic is important. One effective support to create better environments during the pandemic is an adjustment of working hours.²⁴ Some hospital staff in several cities with a high burden of COVID-19 in Indonesia work for 2 weeks and have the following week off. Some local governments even provided accommodation for the health workers during the peak of the COVID-19 cases. These policies were implemented to prevent transmission from healthcare workers to their environment. Reorganizing the area in the hospital to provide space for healthcare workers to relax, shower, receive emotional support, and reenergize with snacks and beverages is expected by the employees since they are exposed to the stress of using the full protective equipment and dealing with the mortality and emergency of COVID-19 patients.

Taking care of the mental health of healthcare workers directly affects their ability to fully serve their patients. We should take this moment to strengthen our healthcare system, especially mental health services. In the near future, it will be mandatory to establish psychological treatment guidelines and launch the program to improve psychological resilience among healthcare workers. Finally, all the programs put in place so far faced resistance on the part of healthcare workers in admitting psychological difficulties. We believe online promotion and awareness campaigns to minimize psychological stigma should also be implemented in both the planning and the execution phases of a psychological intervention program.

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INA-RESPOND Newsletter

ENHANCING SLEEP QUALITY THROUGH EXERCISE

By: Marco Ariono

Over the past 20 years, there has been a dramatic increase in persons reporting sleeping less than 6 hours each night. The structure of sleep is extremely stable from night to night. Sleep is not a biologically passive interval sandwiched between periods of alertness because each night is made up of repeating, complicated, active physiological processes. For optimal health, getting enough sleep is crucial. Memory consolidation, brain metabolite removal, and neurological, immunological, skeletal, and muscular system restoration are just a few of the various processes that take place while we sleep.¹

The National Institutes of Health estimates that 30% of the general population has sleep disruption, and 10% reports sleep disruption and daytime dysfunction that is compatible with an insomnia diagnosis. Patients who suffer from sleeplessness are at a high risk of hypertension, atherosclerosis, and sudden myocardial infarction. The likelihood of depression and suicidal thoughts and actions is increased by insomnia, which is strongly associated with mental illness. Chronic sleep deprivation also raises the risk of immune system impairment, pain aggravation, performance decline, bigger mistakes, and higher accident risk.²

Exercise as Sleep Disturbance Therapy

Exercise is a non-pharmacological therapy for insomnia that is easily accessible, costs less than other non-pharmacological approaches, and has benefits that are influenced by the type of exercise and evaluation methods. Recent randomized controlled trials (RCTs) have demonstrated that exercise has beneficial impacts on sleep efficiency, total sleep time, the severity of insomnia, sleep quality, and onset latency.²

One study showed that adolescents' sleep duration and several sleep quality factors increased after twelve weeks

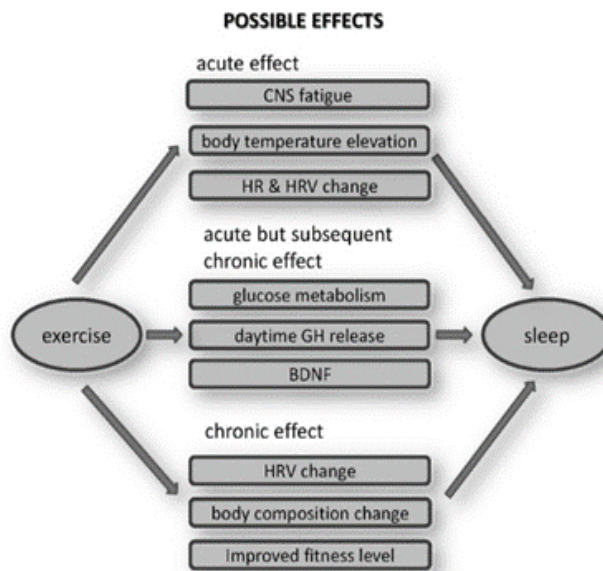


Figure 1. Possible effects of exercise on sleep³

of exercise training. These researchers discovered that, when employing polysomnography, exercise training decreased NREM stage N1 (very light sleep) while enhancing REM sleep, sleep continuity, and sleep efficiency.²

Possible impacts of exercise on sleep are depicted in Figure 1. An early study discovered that daytime activity raised heart rate (HR) during sleep. Changes in HR during sleep, when the body is essentially at rest, would be attributed to changes in autonomic activity. Chronic exercise has been demonstrated to impact heart rate and heart rate variability (HRV). According to a recent meta-analysis evaluating the impact of exercise therapy on HRV, routine exercise increases vagal modulation, which causes bradycardia. Such vagal modulation may indicate enhanced parasympathetic control, which may promote mood and sleep.³

Exercise Recommendation

According to global estimates, the WHO's 2010 recommendations for physical exercise are not being followed by 27.5 percent of adults and 81 percent of adolescents. On average, over the week, children and adolescents should engage in 60 minutes per day of aerobic activity of moderate to vigorous intensity. At least three days a week should be dedicated to high-intensity aerobic exercise and exercises that build bone and muscle.⁴

Getting regular exercise is recommended for all individuals. For significant health advantages, adults should engage in 150–300 minutes of moderate-intensity aerobic physical activity, 75–150 minutes of vigorous-intensity aerobic physical activity, or an equivalent combination of both throughout the week. To reap the additional health benefits, adults should engage in muscle-strengthening exercises involving all major muscle groups on two or more days per week.⁴

Time to Exercise

Exercise also depends on the time of day. Early-evening exercise improved sleep quality in the current study. Morin et al. discovered that exercise in the early evening enhances the quality of sleep.^{5,6}

Yamanaka et al. used a variety of physiological indicators, including plasma melatonin, rectal temperature, polysomnography, and heart rate variability, to assess the acute effects of daily aerobic exercise in young adult males over the course of six nights at a living facility. These researchers found that depending on the time of day the exercise is conducted, the everyday exercise of moderate intensity had varying impacts on the circadian melatonin rhythm, rectal temperature during nocturnal sleep, sleep phases, and heart rate variability. The analysis of these findings leads to the conclusion that exercise time affects how well a person sleeps. Because exercise activates the sympathetic nervous system, the authors concluded that exercising earlier in the day may enhance the quality of nocturnal sleep. Yamanaka et al. recommend promoting parasympathetic activity by allowing time for the activation of the sympathetic nervous system to decline to enhance the quality of sleep.⁷

In contrast to these results, Alley et al. discovered that resistance exercise timing had no appreciable impact on either total or REM sleep the next night. The researchers

did come to the conclusion that resistance training does, regardless of the time of day, increase sleep quality. They specifically showed that differences in the timing of resistance training impacted sleep-related variables such as sleep onset latency (SOL) or wake time following sleep onset (WASO). For instance, morning exercise was found to decrease the amount of time needed to fall asleep considerably, and evening exercise was found to increase WASO significantly. In a separate study, Fairbrother et al. examined the effects of the morning, afternoon, and evening exercise on SOL, WASO, and the number of times subjects woke up throughout the night in adults. The researchers found that these sleep metrics were at their lowest following morning physical activity bouts.⁸

Conclusion

Regular physical exercise can improve sleep quality in a variety of ways. According to recent studies, exercise helps people with insomnia and sleep difficulties. Exercise on a regular basis is advised for everyone. Adults should exercise for 150–300 minutes at a moderate intensity each week.

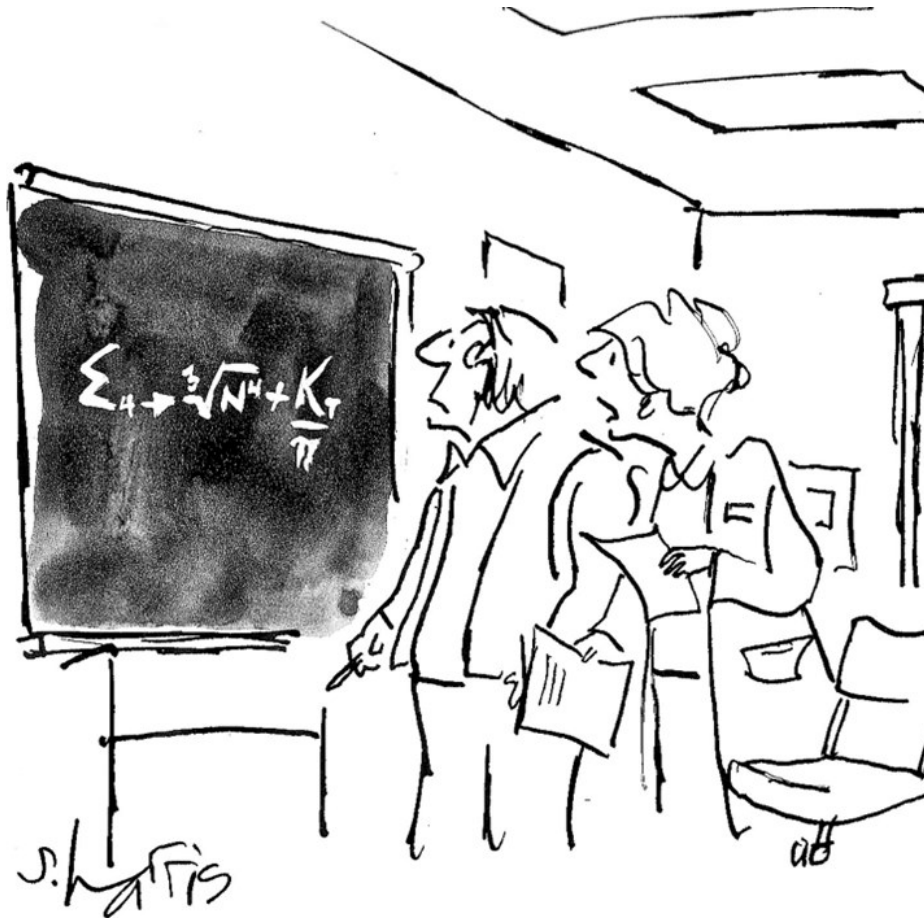
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INA-RESPOND Newsletter

P-VALUE: FRIEND OR FOE?

By: Aly Diana



"IN OTHER WORDS, STATISTICS PROVE THAT
STATISTICIANS AREN'T ALWAYS RIGHT."

Disclaimer: I am not a statistician nor an expert in statistics. However, I really think that this is an interesting and important topic to discuss. Here, I am trying to summarize some of the essential points from a paper very briefly and certainly not complete (Greenland, S., Senn, S.J., Rothman, K.J. et al. Statistical tests, P-values, confidence intervals, and power: a guide to misinterpretations. *Eur J Epidemiol* 31, 337–350 (2016)).

tute the sole input to inferences or decisions about associations or effects. All statistics models are built based on assumptions. Every method of statistical inference depends on a complex web of assumptions about how data were collected and analyzed, and how the analysis results were selected for presentation. These assumptions (including random sampling) are often deceptively simple to write down mathematically. Yet, in practice,

- In memory of Douglas Graham Altman (12 July 1948 – 3 June 2018) -

P-value has been misinterpreted widely; the dichotomous classification of results into "significant" and "non-significant" based on arbitrary cut-off is unnecessary for and often damaging to the valid interpretation of data. Although this concern has been presented for a long time, for some scientists (and probably a large portion of them), P-value remains the highlight/focus of study results and dominates much of the scientific literature.

First thing first, statistical tests should never consti-

they are difficult to satisfy and verify, as they may depend on the successful completion of a long sequence of actions (such as identifying, contacting, obtaining consent from, obtaining the cooperation of, and following up subjects, as well as adherence to study protocols for treatment allocation, masking, and data analysis). All in all, the results of any statistical tests should be interpreted with care.

Correct and careful interpretation of statistical tests demands examining the sizes of effect estimates and confidence limits, as well as precise P-values (not just whether P-values are above or below 0.05 or some other threshold). Careful interpretation also demands a critical examination of the assumptions and conventions used for the statistical analysis—not just the usual statistical assumptions, but also the hidden assumptions about how results were generated and chosen for presentation.

It is true that the smaller the P-value, the more unusual the data would be if every single assumption were correct, but a very small P-value does not tell us which assumption is incorrect. For example, the P-value may be very small because the targeted hypothesis is false; but it may instead (or in addition) be very small because the

study protocols are violated, or because it is selected for presentation based on its small size. Conversely, a large P-value indicates only that the data are not unusual under the model, but does not imply that the model or any aspect of it (such as the targeted hypothesis) is correct; it may instead (or in addition) be large because (again) the study protocols were violated, or because it was selected for presentation based on its large size. Nonetheless, the P-value can be viewed as a continuous measure of the compatibility between the data and the entire model used to compute it, ranging from 0 for complete incompatibility to 1 for perfect compatibility, and in this sense may be viewed as measuring the fit of the model to the data.

As a closing statement, the authors stated: we note that no statistical method is immune to misinterpretation and misuse, but prudent users of statistics will avoid approaches especially prone to serious abuse. In this regard, we join others in singling out the degradation of P-values into “significant” and “non-significant” as an especially pernicious statistical practice.



INA-RESPOND Network **Steering Committee Meeting**

The INA-RESPOND network has regularly held Steering Committee meetings to discuss study developments and the latest issues related to the INA-RESPOND network's activities and the health research world. The INA-RESPOND Steering Committee meeting is held three times a year. In 2022, the first SC meeting was held on January 21, 2022. The second INA-RESPOND Steering Committee meeting in 2022 will be held on August 24-25, in Jakarta, implementing the applicable health protocols. The presence of the Steering Committee Members in the meeting is highly expected for its success.

The INA-RESPOND Secretariat will send a meeting calendar via email as a reminder, and an official invitation letter will be sent later. We express our gratitude for the cooperation and willingness of all members of the Steering Committee to participate in the upcoming Steering Committee meeting.

Looking forward to seeing you at the meeting!

Sincerely,

INA-RESPOND Secretariat



INA-RESPOND Newsletter

The Indonesia Research Partnership on Infectious Disease newsletter is an internal bulletin of INA-RESPOND research network intended to disseminate information related to the network's studies, activities, and interests to all members of the network as well as its sponsors and related parties.

The INA-RESPOND newsletter welcomes all network members and stakeholders to contribute by submitting articles related to the network's studies and interests. Send your articles or subscribe to our latest newsletter by sending an email to INA.Secretariat@ina-respond.net

