Olahraga dan Kesehatan Mental

Daniella Satyasari

Departemen Psikiatri – FK Universitas Trisakti

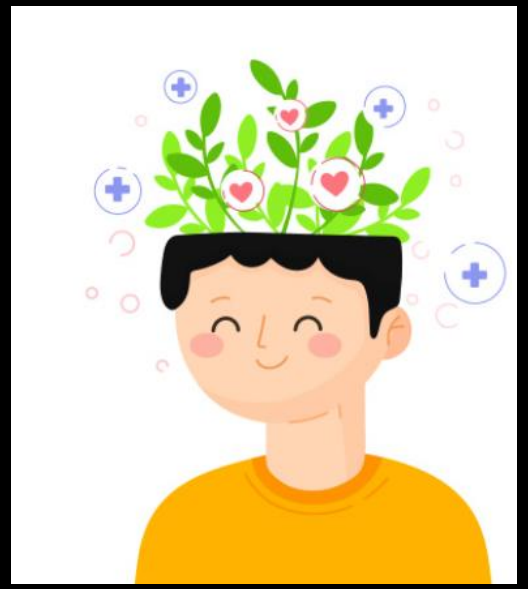
Apa itu gangguan mental?

Apa penyebabnya?

Apa olahraga bisa bikin mental lebih sehat?

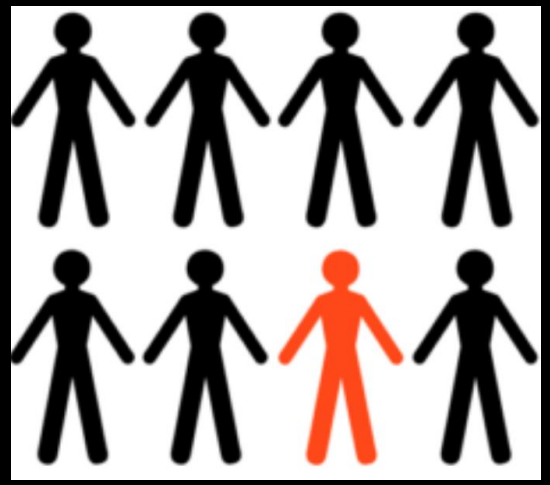
Sehat Mental

Sehat dan sejahtera secara psikologis → mampu menghadapi dan mengelola berbagai stres kehidupan

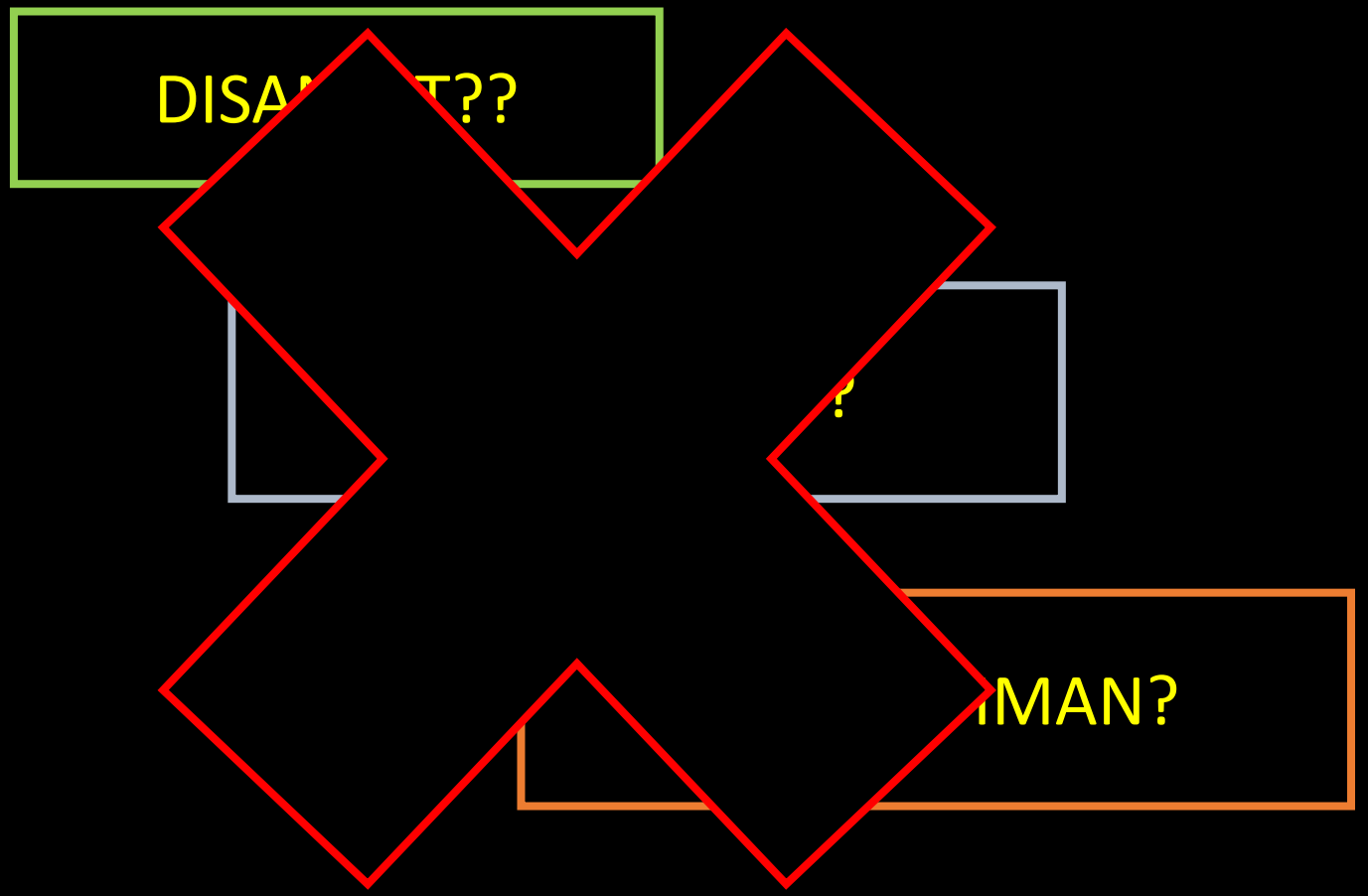


4P = Pikiran, perasaan, perilaku, persepsi

Berapa yang mengalami?



Penyebabnya?



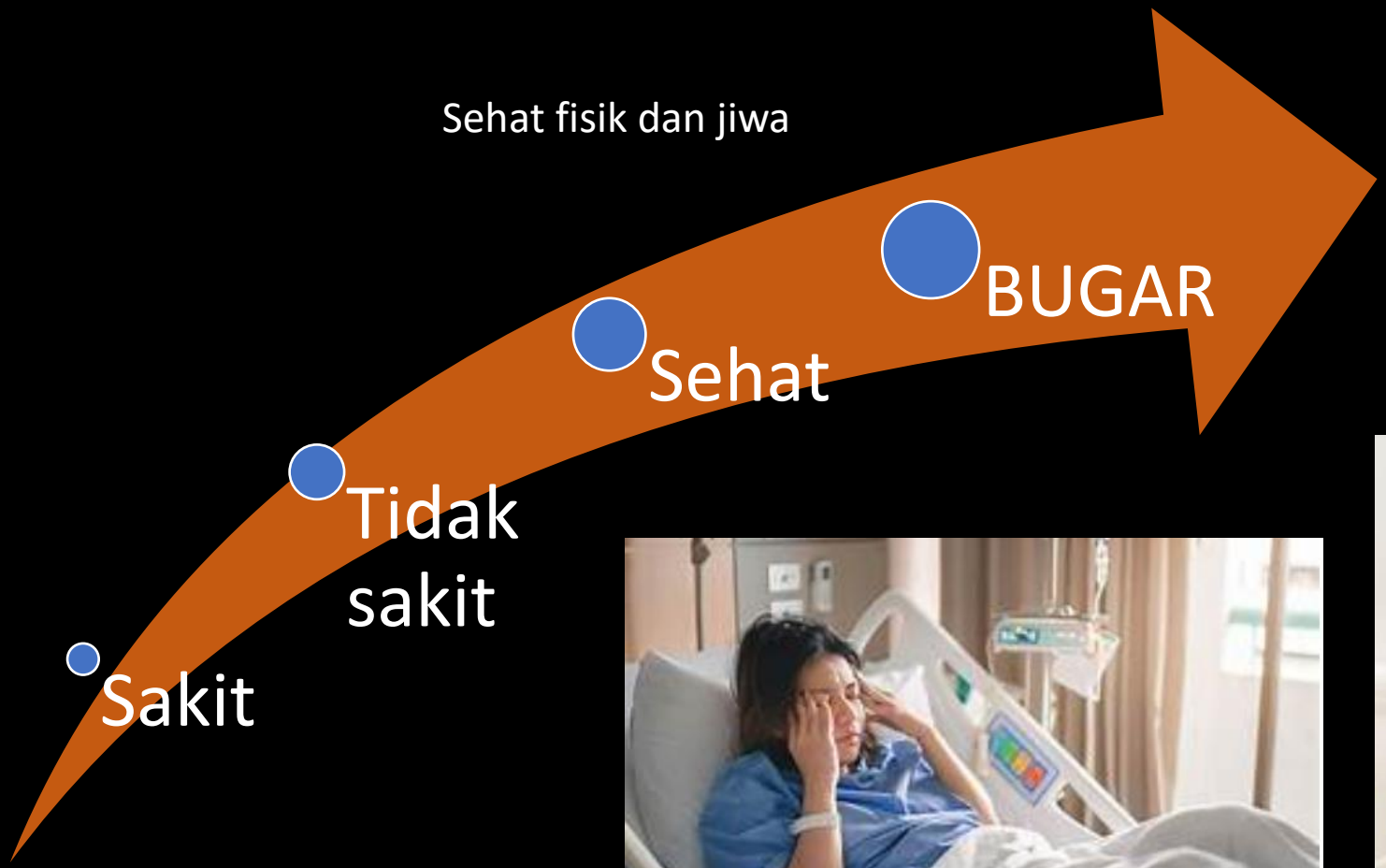
Kasus 1

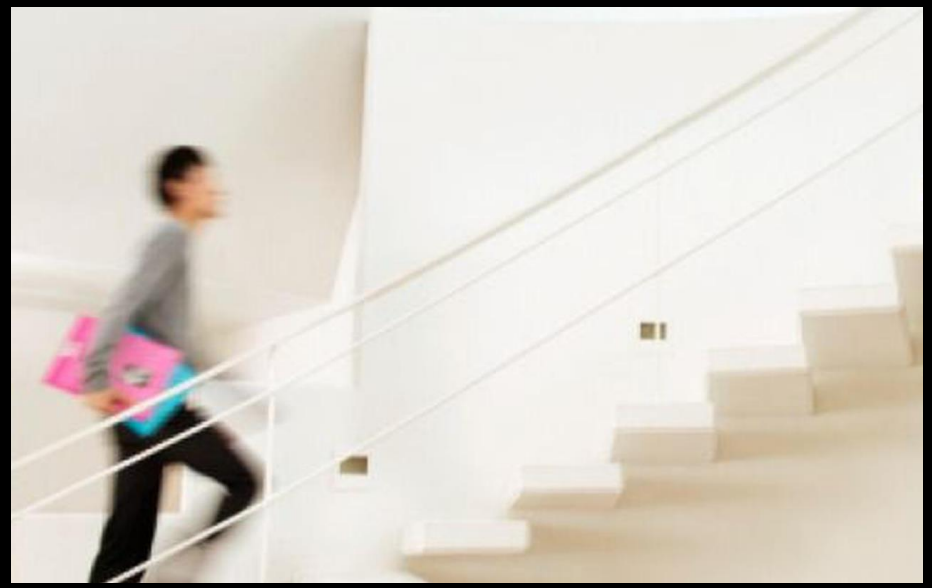
- Seorang perempuan berusia 41 tahun, obesitas, sering GERD dan migren → sudah minum berbagai macam obat
- Mudah engap, mager, tidak olahraga, makan sesuka hati.
- Tidak percaya diri akan penampilannya, mudah marah & tersinggung
- Pekerjaan terganggu, sulit fokus dan kadang pulang kerja setengah hari
- Kualitas hidup tidak baik

APA MASALAHNYA?

Tidak fit, mager → banyak penyakit

Apa itu kebugaran?





Penyakit terbanyak di Indonesia

Akar masalah?

GAYA HIDUP:

- Kebiasaan makan
- Pasif, mager
- ≠ olahraga

Obesitas

Solusi

Perbaiki gaya hidup → kebiasaan >>

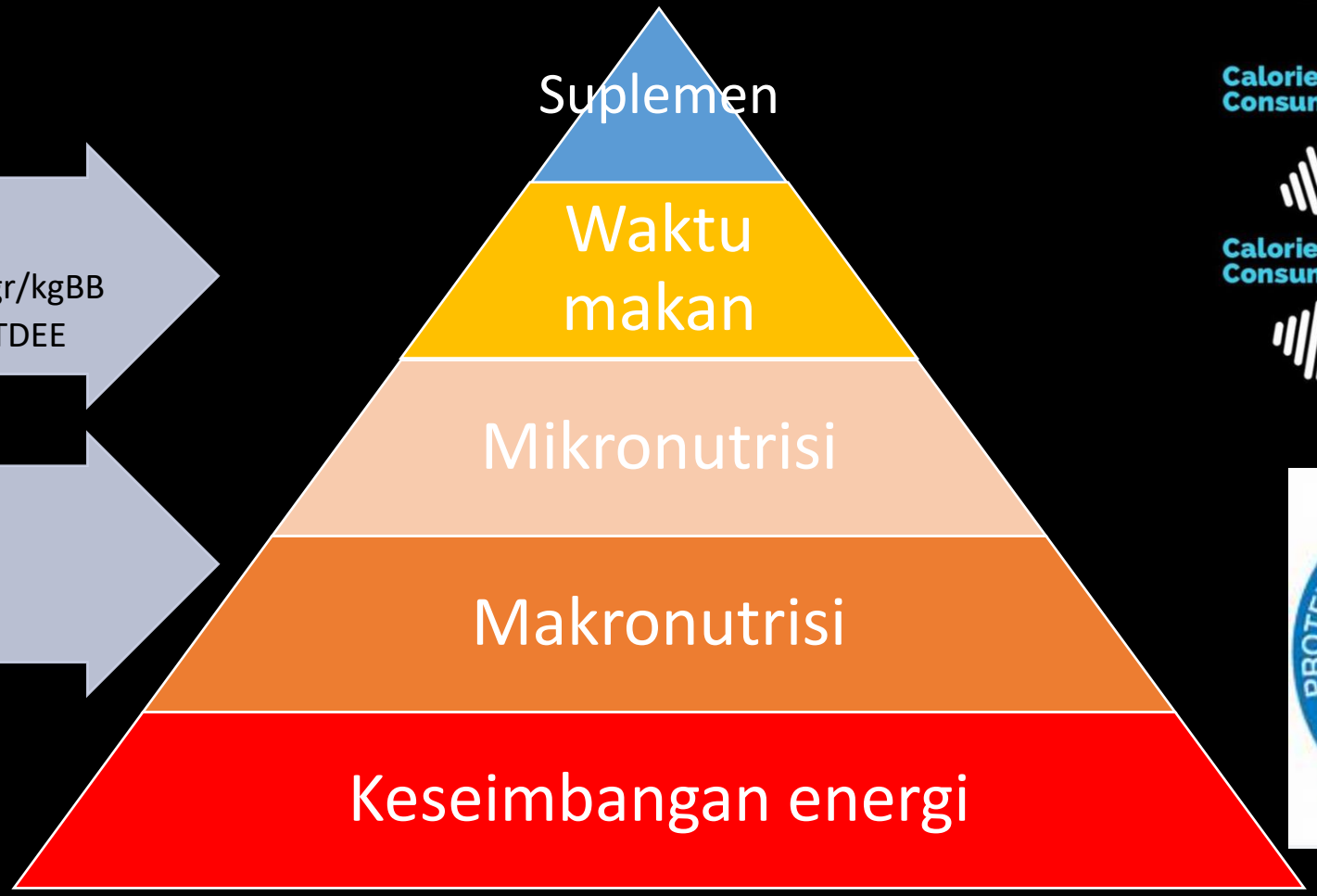
DIET = GAYA HIDUP

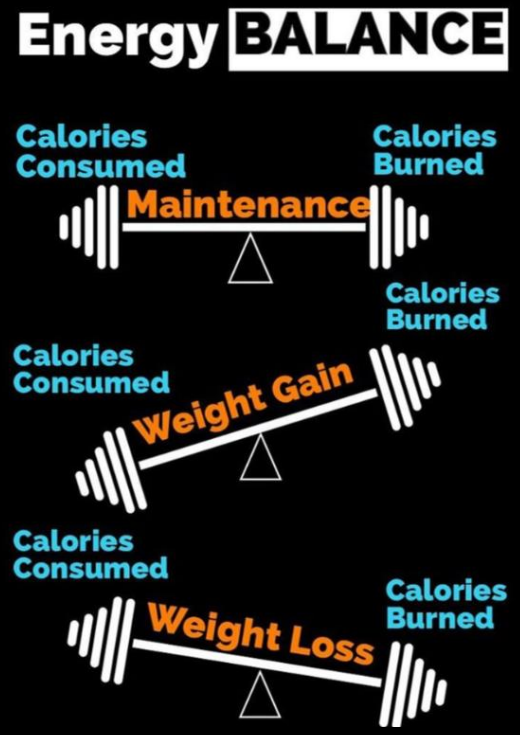
Makronutrisi

- Karbohidrat -> 3gr/kgbB
- Protein -> 1- 2gr/kgBB
- Lemak -> 20% TDEE

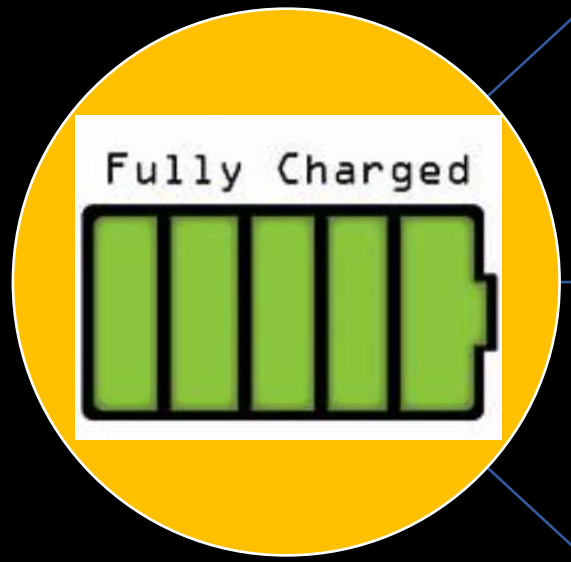
Mikronutrisi

- Vitamin
- Mineral





Kenapa PERLU olahraga?



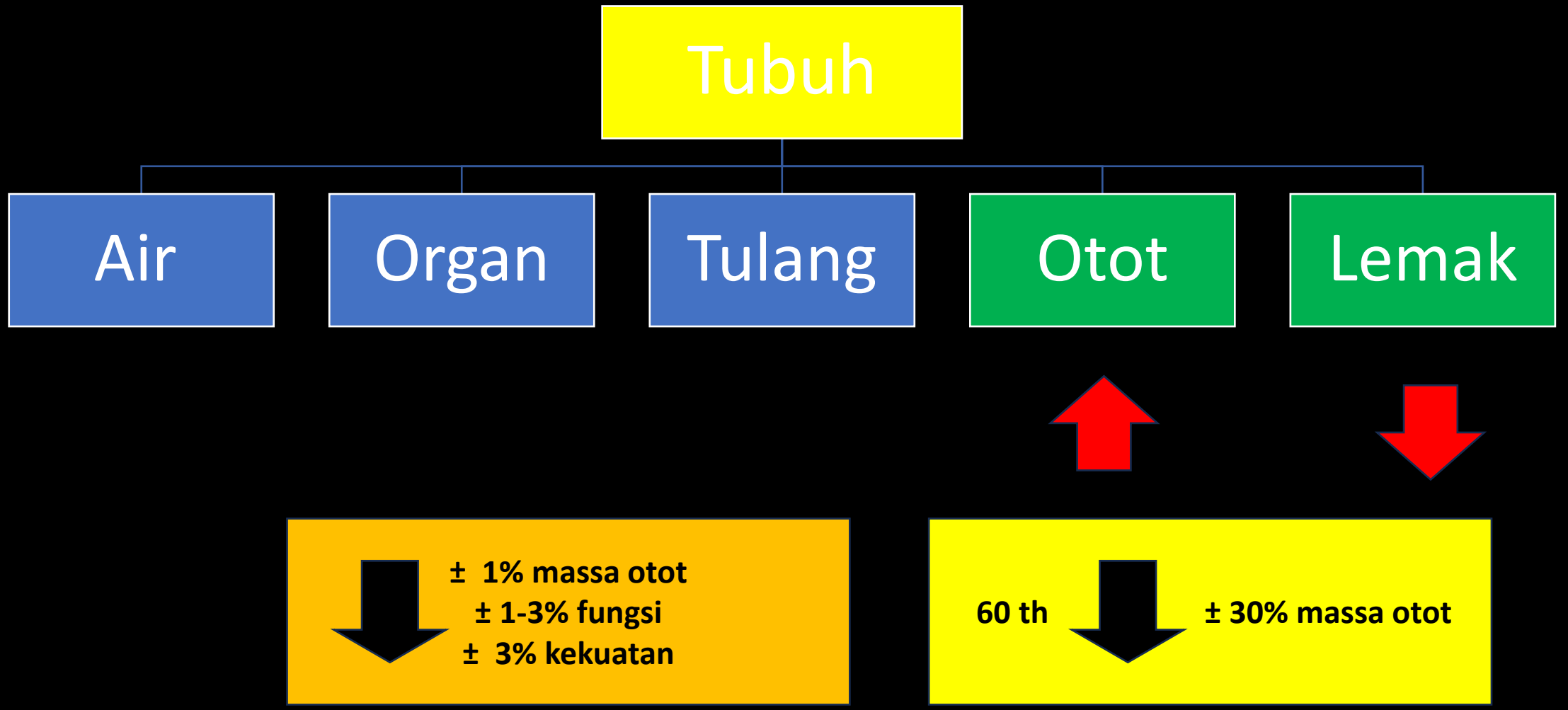
Olahraga & aktivitas fisik

Diet

Tidur, <stress

POLA HIDUP

Target?


Tubuh
Air
Organ
Tulang
Otot
Lemak
± 1% massa otot
± 1-3% fungsi
± 3% kekuatan
60 th
± 30% massa otot

Manfaat Olahraga

< Gula, TG, Kol, TD

< BB

Jantung paru

Postur

>> Tulang

Fleksibilitas & mobilitas

Imunitas

< Nyeri

Mandiri

Relaksasi

>> Mood

>> Konsentrasi, memori

> PD

> Tidur

>> Target → makna

< dep, cemas

> Komunikasi

> Sosial

↑ QOL

The earlier, the better

Research

Effect of exercise for depression: systematic review and network meta-analysis of randomised controlled trials

BMJ 2024 ; 384 doi: https://doi.org/10.1136/bmj-2023-075847 (Published 14 February 2024)
Cite this as: *BMJ* 2024;384:e075847

Results 218 unique studies with a total of 495 arms and 14 170 participants were included. Compared with active controls (eg, usual care, placebo tablet), moderate reductions in depression were found for walking or jogging (n=1210, κ=51, Hedges' g −0.62, 95% credible interval −0.80 to −0.45), yoga (n=1047, κ=33, g −0.55, −0.73 to −0.36), strength training (n=643, κ=22, g −0.49, −0.69 to −0.29), mixed aerobic exercises (n=1286, κ=51, g −0.43, −0.61 to −0.24), and tai chi or qigong (n=343, κ=12, g −0.42, −0.65 to −0.21). The effects of exercise were proportional to the intensity prescribed. Strength training and yoga appeared to be the most acceptable modalities. Results appeared robust to publication bias, but only one study met the Cochrane criteria for low risk of bias. As a result, confidence in accordance with CINeMA was low for walking or jogging and very low for other treatments.

Conclusions Exercise is an effective treatment for depression, with walking or jogging, yoga, and strength training more effective than other exercises, particularly when intense. Yoga and strength training were well tolerated compared with other treatments. Exercise appeared equally effective for people with and without comorbidities and with different baseline levels of depression. To mitigate expectancy effects, future studies could aim to blind participants and staff. These forms of exercise could be considered alongside psychotherapy and antidepressants as core treatments for depression.

frontiers in Psychiatry

Front Psychiatry. 2019 Jan 10;9:762. doi: 10.3389/fpsyt.2018.00762

Physical Exercise in Major Depression: Reducing the Mortality Gap While Improving Clinical Outcomes

Abstract

Major depression shortens life while the effectiveness of frontline treatments remains modest. Exercise has been shown to be effective both in reducing mortality and in treating symptoms of major depression, but it is still underutilized in clinical practice, possibly due to prevalent misperceptions. For instance, a common misperception is that exercise is beneficial for depression mostly because of its positive effects on the body ("from the neck down"), whereas its effectiveness in treating core features of depression ("from the neck up") is underappreciated. Other long-held misperceptions are that patients suffering from depression will not engage in exercise even if physicians prescribe it, and that only vigorous exercise is effective. Lastly, a false assumption is that exercise may be more harmful than beneficial in old age, and therefore should only be recommended to younger patients. This narrative review summarizes relevant literature to address the aforementioned misperceptions and to provide practical recommendations for prescribing exercise to individuals with major depression.

Literature examining the relationship between depression, cardiovascular risk factors, cardiovascular mortality, and physical exercise in adults.

Cardiovascular risk factor	Association between depression and risk factor	Effect of exercise on risk factor among non-depressed populations
Obesity—overweight	Depression had a 37% increased risk of becoming obese (RR: 1.37, 95%CI: 1.17–1.48); risk was highest for young and middle aged women. Nineteen prospective studies (26, 42)	Exercise was effective to reduce body weight (although less effective than hypocaloric diet) and visceral adipose tissue (more effective than hypocaloric diet). 117 trials (43)
Type 2 Diabetes	Depression was associated with an increased risk of having T2DM (RR: 1.49; 95%CI: 1.29–1.72). Ten studies, only one prospective (44)	Exercise improved Hb1AC levels and insulin resistance. 27 trials (45)
Unbalanced diet	Two out of three studies supported an association between depression and unbalanced diet. Three studies, all cross sectional (24)	na

Hypertension	Depression was associated with an increased risk of incident hypertension (RR: 1.42, 95% CI: 1.09–1.86). Nine prospective studies (48)	Exercise reduced blood pressure. The magnitude of the effect changed according to exercise type and was greater for hypertensive subjects. 93 RCTs (49)
Cigarette smoking	Among adolescents, depression increased the risk of beginning smoking (RR: 1.41, 95% CI: 1.21–1.63). Twelve prospective studies (20). Depressed smokers had lower odds of short-term (OR: 0.83, 95%CI: 0.72–0.95) and long-term abstinence (OR: 0.81, 95%CI: 0.67–0.97). Forty-	No effect of exercise on smoking cessation. 19 RCTs (60)
Physical inactivity/sedentary behavior	Depression was associated with less time spent for total Physical Activity (SMD: −0.25, 95%CI: −0.03–0.15), higher levels of Sedentary Behavior (SMD: 0.09, 95%CI: 0.01–0.18) and lower likelihood to meet physical activity levels recommended by guidelines (OR: −1.50, 95%CI: −1.10 to −2.10). Twenty-four cross sectional studies (17). A recent large study confirmed the association between mental health and physical activity levels (62)	Exercise interventions yielded uncertain and/or small effects increasing subsequent physical activity (63–65)

The anxiolytic effects of resistance exercise

Justin C Strickland [1], Mark A Smith [1,*]

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PMCID: PMC4090891 PMID: 25071694

Abstract

Numerous studies have revealed the beneficial effects of regular exercise across a variety of mental health measures. Although a great deal of attention has been paid to the role of aerobic exercise, less is known about the role of resistance exercise (i.e., strength training) in mental health outcomes. Resistance exercise includes a broad group of procedures that evoke repeated muscle action against resistances above those encountered in daily life. A growing body of literature has identified anxiolytic effects of resistance exercise in human populations after both single-bout sessions and long-term training. This research has shown that resistance training at a low-to-moderate intensity (<70% 1 repetition maximum) produces the most reliable and robust decreases in anxiety. Importantly, anxiolytic effects have been observed across a diverse range of populations and dependent measures. These findings provide support for the use of resistance exercise in the clinical management of anxiety.

J Prev Med Public Health. 2013 Jan 30;46(Suppl 1):S12–S21. doi: 10.3961/jpmph.2013.46.S.S12

Exercise and Physical Activity in Mental Disorders: Clinical and Experimental Evidence

Elisabeth Zschucke [1], Katharina Gaudlitz [1], Andreas Ströhle [1,✉]

Author information · Article notes · Copyright and License information

PMCID: PMC3567313 PMID: 23412549

Abstract

Several epidemiological studies have shown that exercise (EX) and physical activity (PA) can prevent or delay the onset of different mental disorders, and have therapeutic benefits when used as sole or adjunct treatment in mental disorders. This review summarizes studies that used EX interventions in patients with anxiety, affective, eating, and substance use disorders, as well as schizophrenia and dementia/mild cognitive impairment. Despite several decades of clinical evidence with EX interventions, controlled studies are sparse in most disorder groups. Preliminary evidence suggests that PA/EX can induce improvements in physical, subjective and disorder-specific clinical outcomes. Potential mechanisms of action are discussed, as well as implications for psychiatric research and practice.

ANNUAL REVIEW OF MEDICINE Volume 72, 2021

Review Article | Free

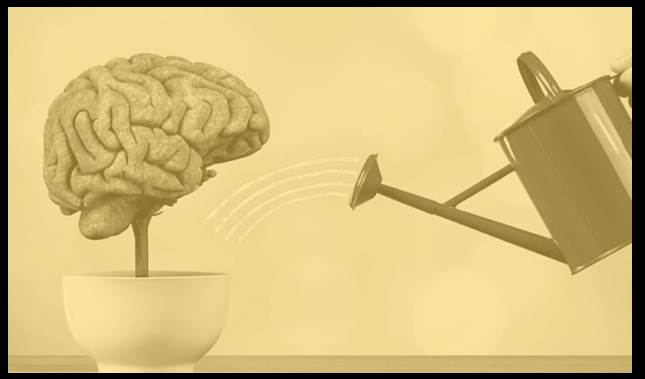
The Role of Exercise in Management of Mental Health Disorders: An Integrative Review

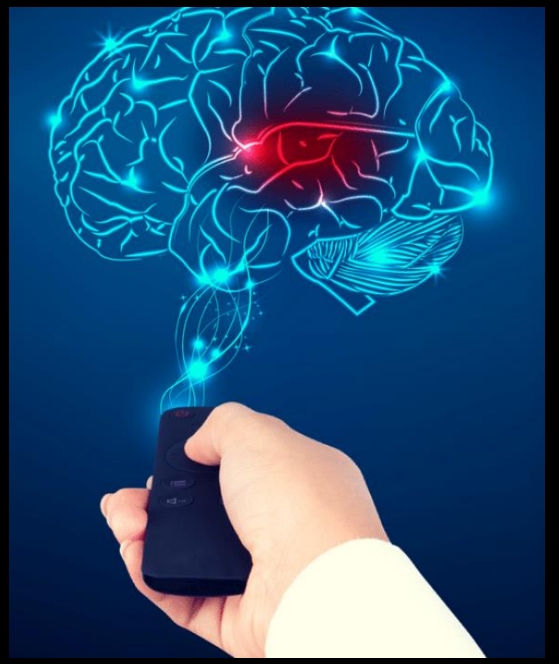
Patrick J. Smith[1,2,3], and Rhonda M. Merwin[1]

View Affiliations

ABSTRACT

A large and growing body of evidence suggests that physical activity (PA) may hold therapeutic promise in the management of mental health disorders. Most evidence linking PA to mental health outcomes has focused on the effects of aerobic exercise training on depression, although a growing body of work supports the efficacy of both aerobic and resistance exercise paradigms in the treatment of anxiety and post-traumatic stress disorder. Despite abundant evidence linking PA and mental health, use of exercise training as a mental health treatment remains limited due to three important sources of uncertainty: (*a*) large individual differences in response to exercise treatment within multiple mental health domains; (*b*) the critical importance of sustained PA engagement, not always achieved, for therapeutic benefit; and (*c*) disagreement regarding the relative importance of putative therapeutic mechanisms. Our review of treatment data on exercise interventions and mental health outcomes focuses primarily on depression and anxiety within a health neuroscience framework. Within this conceptual framework, neurobiological and behavioral mechanisms may have additiveor synergistic influences on key cognitive and behavioral processes that influence mental health outcomes. We therefore highlight sources of treatment heterogeneity by integrating the critical influences of (*a*) neurobiological mechanisms enhancing neuroplasticity and (*b*) behavioral learning of self-regulatory skills. Understanding the interrelationships between dynamic neurobiological and behavioral mechanisms may help inform personalized mental health treatments and clarify why, and for whom, exercise improves mental health outcomes. The review concludes with recommendations for future studies leveraging individual differences to refine treatment approaches to optimize mental health benefits.





International Journal of Human Movement and Sports Science 9(6): 1362-1370, 2021 http://www.hrpub.org
DOI: 10.13189/saj.2021.090632

Effect of Aerobic Versus Anaerobic Exercise on Quality of Life in Stroke Patients

Mahmoud Y. Elzanaty[1], Mai M. Gamal[2], Gehan M. Ahmed[3], Amira M. Abdel Rahman[4], Rania M. Tawfik[5,*]

[1]Physical Therapy for Neuromuscular Disorders and its Surgery, Faculty of Physical Therapy, Cairo University and Deraya University, Egypt
[2]Physical Therapy for Neuromuscular Disorders and its Surgery, Faculty of Physical Therapy, Badr University, Cairo, Egypt
[3]Physical Therapy for Neuromuscular Disorders and its Surgery, Faculty of Physical Therapy, Cairo University, Cairo, Egypt
[4]Faculty of Medicine, Badr University, Cairo, Egypt
[5]Physical Therapy for Neuromuscular Disorders and its Surgery, Faculty of Physical Therapy, Cairo University, Cairo, Egypt

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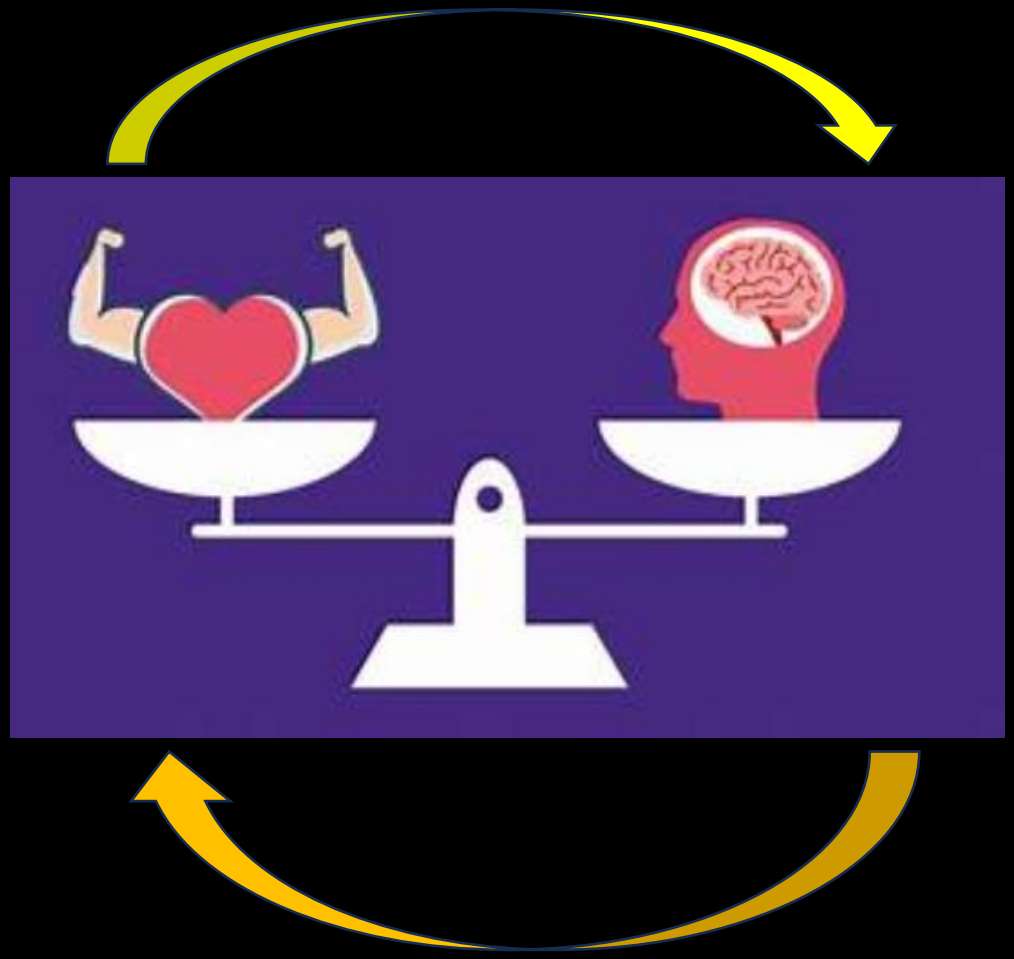
(a): *[1] Mahmoud Y. Elzanaty, Mai M. Gamal, Gehan M. Ahmed, Amira M. Abdel Rahman, Rania M. Tawfik , "Effect of Aerobic Versus Anaerobic Exercise on Quality of Life in Stroke Patients," International Journal of Human Movement and Sports Sciences, Vol. 9, No. 6, pp. 1362 - 1370, 2021. DOI: 10.13189/saj.2021.090632.*

(b): *Mahmoud Y. Elzanaty, Mai M. Gamal, Gehan M. Ahmed, Amira M. Abdel Rahman, Rania M. Tawfik (2021). Effect of Aerobic Versus Anaerobic Exercise on Quality of Life in Stroke Patients. International Journal of Human Movement and Sports Sciences, 9(6), 1362 - 1370. DOI: 10.13189/saj.2021.090632.*

Abstract Background: Stroke is one of the world's leading causes of death and long-term lack of ability. Objectives: This study aimed to test the effect of aerobic versus anaerobic exercise on stroke patients' quality of life. Methods: Thirty male patients with stroke enrolled in this study. The patients were divided into three groups at random: two research groups (GA) and (GB) and one compared with that of control group (GC) after therapy. However, there was no significant difference between groups in role limitations due to physical health and role limitations due to emotional problems. There was no meaningful difference in the quality of life items within groups (GA), (GB) after therapy. Conclusion: Eight weeks of training revealed non-significant difference between

Olahraga dan Aktivitas Fisik → Mental >>>



- Regulasi hormon lapar-kenyang
- Metabolisme >>
- Hormon tidur → berkualitas
- Regulasi hormon stress, seks
- Sistem imun >>>
- Nyeri <<<

Kasus 1

- Seorang perempuan berusia 41 tahun, obesitas, sering GERD dan migren.
- Mudah engap, mager, tidak olahraga, makan sesuka hati.
- Tidak percaya diri akan penampilannya, mudah marah & tersinggung
- Pekerjaan terganggu, sulit fokus dan kadang pulang kerja setengah hari
- Kualitas hidup tidak baik

6 bulan

- BB dan lemak ↓ 20%
- Otot ↑ 3%
- ≠ GERD, migrain, dan fit. Jalan ≠ engap
- Kerja produktif
- Kualitas hidup √

Kasus 2

- Seorang perempuan berusia 29 tahun, dengan **obesitas dan gangguan panik,** tidak pernah berolahraga, tidak jaga makan
- Cemas berlebihan, berdebar, sesak nafas spt akan mati bila ada pencetus 3-5x/bulan
- Pekerjaan terganggu, sulit fokus.
- **Kualitas hidup tidak baik**

Perubahan pola hidup

3 bulan

- Pengobatan
- Psikoterapi/konseling bertujuan

6 bulan

- Jalan 12.000/hr
- WT 2x/minggu
- Atur makan, bawa bekal

Tingkatkan protein & serat

Contoh aktivitas fisik dan olahraga

- Jalan
- Bebersih rumah
- Memasak

+

- Jalan cepat >30 mnt
- Lari
- Sepedaan
- Berenang
- Yoga
- Pilates
- Tai chi
- dll

3-4 x / minggu

+

Angkat beban

2-4 x / minggu

Aktivitas fisik

Pentingnya **aktif gerak → PULUHAN MANFAAT**

1. Jalan -> KEMENKES 7500 Langkah/hr
   → setelah makan pagi, siang, malam @1000→ 3000
   → ke kantor, pulang kantor → 2000
   → + 2500 → Naik-turun tangga, ke warung, dll
2. Cuci motor, mobil
3. Bebersih rumah, berkebun
4. Main sama anak, peliharaan

Syarat Olahraga

F
- Frekuensi → 150 mnt kardio + 2x WT/minggu →3-5x/minggu

I
- Intensitas → 75-85% optimal
- >>>> → jantung paru

T
- Time → singkat/sedang/panjang

T
- Type -> Aerobik, anaerobik

EFFORT		PURPOSE	
MAXIMUM INTENSITY	90-100%	COMPETITION AND MAXIMAL TESTING.	171-190
VIGOROUS INTENSITY	80-90%	IMPROVES ANAEROBIC AND AEROBIC FITNESS, INTERVAL TRAINING AND TEMPO TRAINING.	152-170
MODERATE INTENSITY	70-80%	IMPROVES AEROBIC FITNESS, CONTINUOUS, AND STEADY STATE TRAINING.	133-151
LIGHT INTENSITY	60-70%	BUILDS ENDURANCE AND LONG SLOW DISTANCE (LSD) TRAINING.	114-132
VERY LIGHT INTENSITY	50-60%	RECOVERY, WARMING UP AND COOLING DOWN.	95-113

220 – usia = 100%
220 – 30 = 190 (100%)

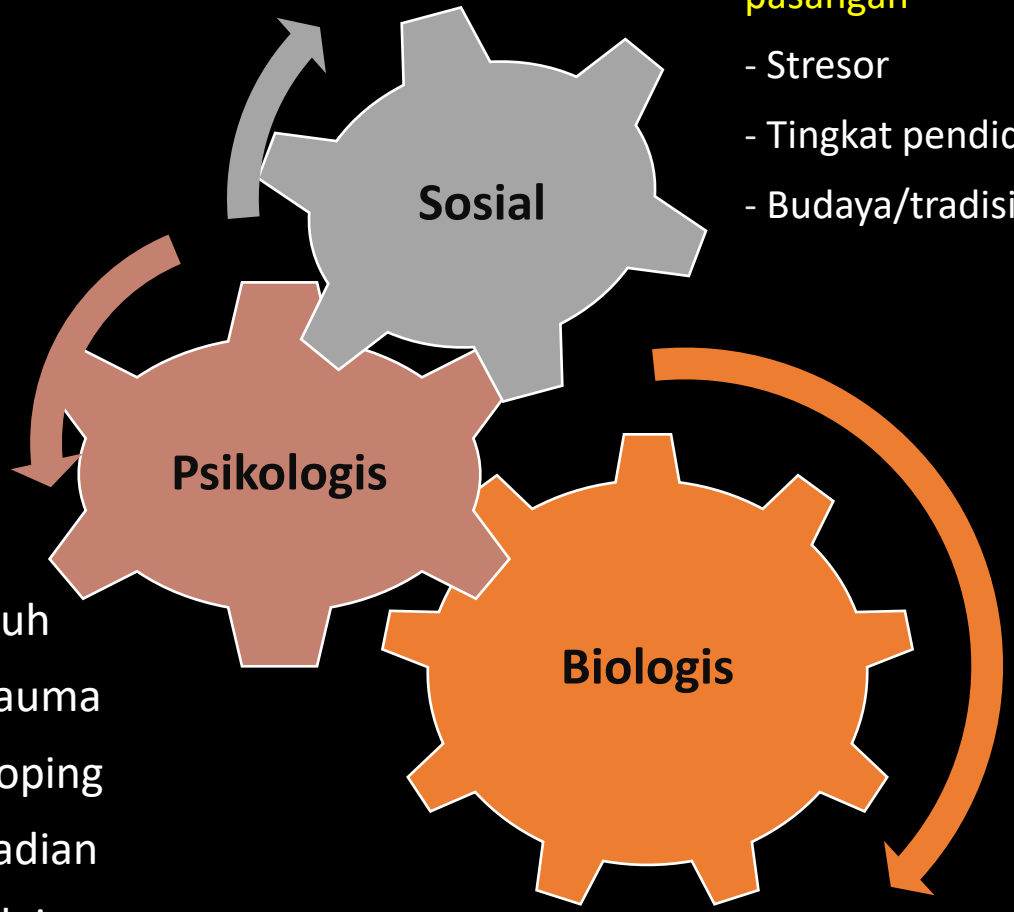
Solusi

Perbaiki gaya hidup → kebiasaan >>

Pengelolaan stress

-Dukungan keluarga, teman, pasangan

- Stresor
- Tingkat pendidikan, sos-ek <<
- Budaya/tradisi



- Pola asuh
- Riw. Trauma
- Mek. koping
- Kepribadian
- Pembelajaran

- Usia muda
- Narkoba
- Penyakit fisik tertentu
- Zat kimia

Tidur

Results

The mean age of the sample was 24.8 years± 4.5 years (w1). Students with shorter sleep durations, and to some degree longer sleep durations (illustrating a ∪-shaped association), exhibited a higher risk for all assessed mental disorders and well-being outcomes one year later, compared to students sleeping 8–9h. The ∪-shaped trend was consistent for both female and male students.

Conclusion

Sleep duration appears to be a transdiagnostic marker for mental health in young adults.

ELSEVIER

Sleep Medicine

Volume 115, March 2024, Pages 30-38

Sleep duration and mental health in young adults

Cecilie L. Vestergaard [a b], Jens C. Skogen [c d e], Mari Hysing [f], Allison G. Harvey [g], Øystein Vedaa [a c], Børge Sivertsen [c h]

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https://doi.org/10.1016/j.sleep.2024.01.021

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Highlights

- The connection between sleep duration and mental health in young adults is ∪-shaped.
- Young adults sleeping <8 h have the highest risk for mental illness.
- Young adults sleeping 8–9 h have the lowest risk for mental illness.

Improving sleep quality leads to better mental health: A meta-analysis of randomised controlled trials

Alexander J Scott [a,*], Thomas L Webb [c], Marrissa Martyn-St James [b], Georgina Rowse [d], Scott Weich [b]

▸ Author information ▸ Article notes ▸ Copyright and License information

PMCID: PMC8651630 PMID: 34607184

Summary

The extent to which sleep is causally related to mental health is unclear. One way to test the causal link is to evaluate the extent to which interventions that improve sleep quality also improve mental health. We conducted a meta-analysis of randomised controlled trials that reported the effects of an intervention that improved sleep on composite mental health, as well as on seven specific mental health difficulties. 65 trials comprising 72 interventions and $N = 8608$ participants were included. Improving sleep led to a significant medium-sized effect on composite mental health ($g+ = -0.53$), depression ($g+ = -0.63$), anxiety ($g+ = -0.51$), and rumination ($g+ = -0.49$), as well as significant small-to-medium sized effects on stress ($g+ = -0.42$), and finally small significant effects on positive psychosis symptoms ($g+ = -0.26$). We also found a dose response relationship, in that greater improvements in sleep quality led to greater improvements in mental health. Our findings suggest that sleep is causally related to the experience of mental health difficulties. Future research might consider how interventions that improve sleep could be incorporated into mental health services, as well as the mechanisms of action that explain how sleep exerts an effect on mental health.

Sleep Medicine
Volume 125, January 2025, Pages 1-13

Effects of exercise on sleep quality in general population: Meta-analysis and systematic review

Xiaojie Zhou [a], Yan Kong [a], Beibei Yu [a], Shengnan Shi [a], Hui He [b]

Results

A total of 7494 studies were retrieved, and 81 eligible randomized controlled trials involving 6193 subjects were finally included. The primary outcome metrics included subjective sleep quality (PSQI), and the secondary outcome was objective sleep efficiency (SE), of which 65 reported PSQI and 23 reported SE. The results of paired meta-analysis showed that exercise significantly decreased PSQI [MD=−1.77, (95% CI=−2.28,-1.25),P<0.05] and increased SE [MD=4.81, (95% CI=2.89,6.73),P<0.05]. The results of the network meta-analysis showed that body and mind exercise [MD=−2.28, (95% CI=−3.19,-1.36),P<0.05, SUCRA=85.6] may be the best exercise to improve PSQI, and aerobic exercise [MD=5.02, (95% CI=2.52,7.52),P<0.05, SUCRA=75.1] is most likely to be the best type of exercise to improve SE. In regression analyses, there was a moderating effect of exercise cycle (β=−0.25 [0.40, 0.46], SE=0.10 [P=0.015, R^2=0.24]) and age (β=−0.20 [-0.04, −0.01, SE=−2.06 [P=0.039,R^2=0.16]) as moderators of objective sleep efficiency.

Conclusion

Exercise is effective in improving both subjective and objective sleep quality. Body and mind exercise, aerobic exercise, and aerobic combined with resistance exercise may be the preferred way to improve sleep, and the longer the exercise cycle, the more obvious the improvement in sleep effect, the improvement effect will gradually decrease with age.

Review Article

The effect of physical activity on sleep quality: a systematic review

Feifei Wang & Szilvia Boros

Pages 11-18 | Received 04 Jan 2019, Accepted 19 May 2019, Published online: 24 Jun 2019

Cite this article https://doi.org/10.1080/21679169.2019.1623314 Check for updates

Aim

This systematic review aims to examine the effect PA intensity on sleep quality in healthy populations.

Methods

We conducted a systematic review by searching latest 8 years publications. PubMed and Scopus were used to identify eligible studies with the searching terms, 'sleep quality' AND 'physical activity', within the timeframe between January 2010 and June 2018. All the included articles were systematically reviewed and analysed. The comparison of physical intensity and sleep quality was conducted based on the threshold of moderate PA and vigorous PA.

Results

Fourteen studies were included in the review. Analyses revealed that moderate PA seems to be more effective than vigorous activity in improving sleep quality. Furthermore, moderate physical exercise is beneficial to sleep quality in both young and old populations.

Conclusions

Moderate exercise showed more promising outcome on sleep quality than vigorous exercise. Future studies are suggested to elaborate detailed exercise suggestions by considering age groups in order to make accurate recommendations for health promotion.

Kasus 3

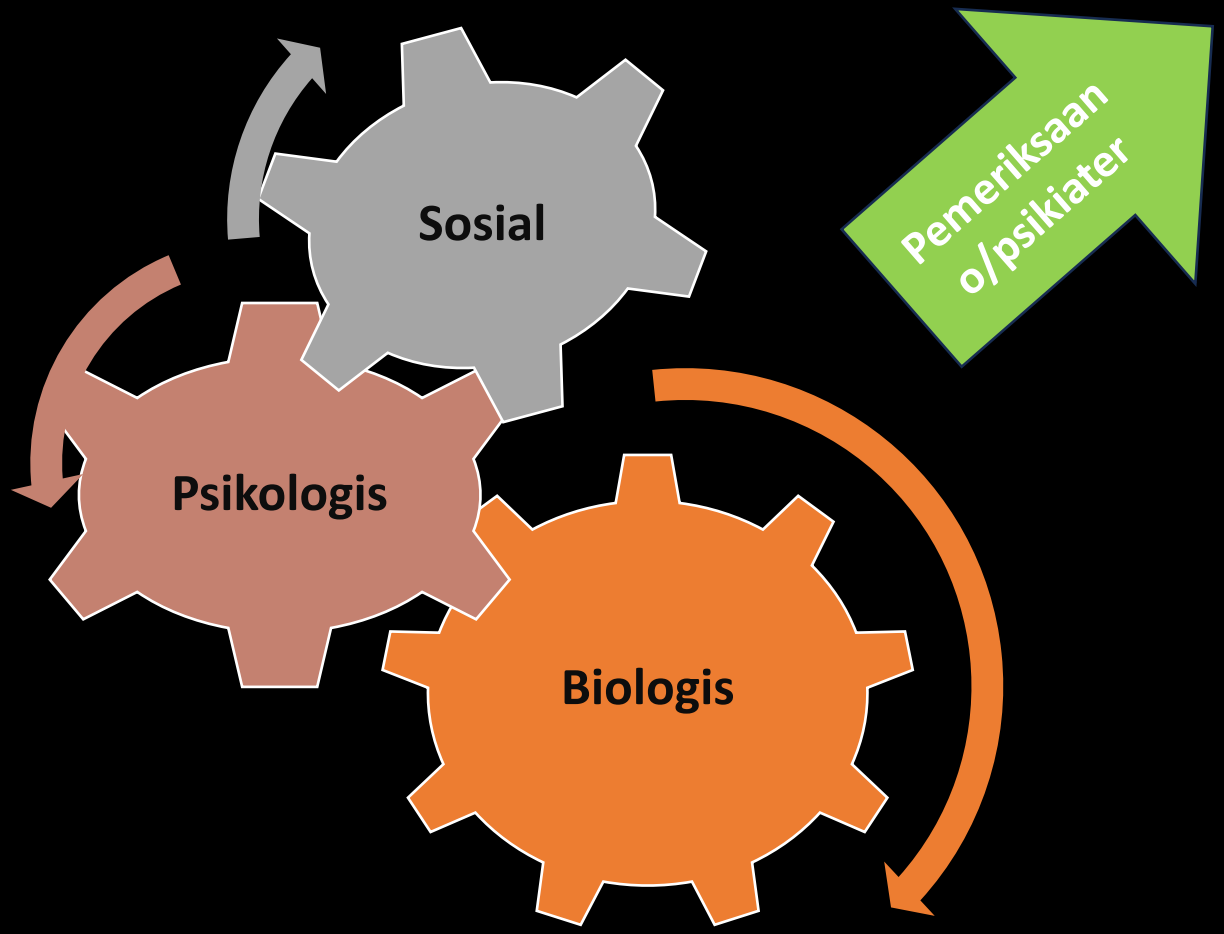
- Seorang perempuan berusia 29 tahun, dengan **gangguan campuran cemas-depresi,** tidak pernah berolahraga, jarang keluar rumah.
- Cemas berlebihan, sedih, sulit tidur & sering terbangun
- Pekerjaan online di rumah → sulit fokus.
- Masalah dgn keluarga

Perubahan pola hidup

6 bulan

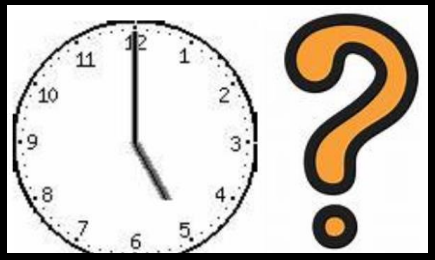
- Pengobatan
- Psikoterapi/konseling bertujuan
- Jalan keluar rumah tiap pagi
- Ikut komunitas - religi
- Tingkatkan aktivitas bersama keluarga

Gangguan Mental



Pengobatan, psikoterapi

- Olahraga kardio & angkat beban
- Intensitas sedang
- Aktif gerak -> 7500/hr
- Naik tangga
- Rutin → SEUMUR HIDUP



Individual / personalized

Kesehatan bukanlah segalanya, tetapi tanpa kesehatan, segalanya menjadi tidak berarti
- Arthur Schopenhauer-

If we don’t use it, we lose it