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# RELATIONSHIP OF BODY PERFORMANCE EXERCISES ON SLEEP QUALITY AND ANXIETY ON ACTIVE WOMEN IN JAKARTA

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***Abstract***
*Sleep quality and anxiety are closely related. Those who have difficulty sleeping often have problems with anxiety, and vice versa, those who have difficulty often experience problems sleeping. Sleep quality has a significant effect on anxiety and is influenced by, among others, the type of work, physical activity, physical exercise, and sports. This study aims to determine the relationship between exercise body performance, sleep quality, and anxiety. This research is descriptive research with a survey method. Using purposive sampling with certain criteria. Participants are members of Studio Primadonna. Instruments with online questionnaires: the Pittsburgh Sleep Quality Index (PSQI) for sleep quality and the Generalized Anxiety Disorder-7 questionnaire were used to assess anxiety. Statistical analysis using chi-square. The survey results show that on average Primadonna studio members have quite good sleep quality, as evidenced by PSQI data 16 people (80%) have quite good sleep quality and have minimal anxiety, as evidenced by the results of GAD-7 data as many as 10 people (50%) ) has a minimal anxiety category. Subjects in the moderately good category on average had minimal anxiety and exercised 5 times a week, while subjects in the moderately poor category on average had mild anxiety and exercised 3 times a week It can be concluded that body performance exercise has a good influence on the sleep quality and anxiety of body performance exercise members at Studio Primadonna. The more often and consistently participants do body performance exercises, the anxiety decreases and the quality of sleep improves. Conversely, the less often you exercise, anxiety increases and sleep quality worsens. Future research is expected to be able to link sleep quality, anxiety, and other relevant variables, with varying subjects and views from various perspectives.*
***Keywords:*** *sleep quality, anxiety, body performance*

# HUBUNGAN SENAM *BODY PERFORMANCE* TERHADAP KUALITAS TIDUR DAN KECEMASAN PADA WANITA AKTIF DI JAKARTA

**Abstrak**
Kualitas tidur dan kecemasan berhubungan erat. Mereka yang sulit tidur sering mengalami masalah kecemasan, begitu pula sebaliknya, mereka yang sulit tidur sering mengalami masalah tidur. Kualitas tidur berpengaruh signifikan terhadap kecemasan dan dipengaruhi antara lain oleh jenis pekerjaan, aktivitas fisik, latihan fisik, dan olahraga. Penelitian ini bertujuan untuk mengetahui hubungan antara


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senam *body performance* berolahraga, kualitas tidur, dan kecemasan. Penelitian ini dengan survey, menggunakan *purposive sampling* dengan kriteria tertentu. Peserta merupakan anggota Studio Primadona. Instrumen dengan kuesioner online: *Pittsburgh Sleep Quality Index* (PSQI) untuk kualitas tidur dan kuesioner Generalized Anxiety Disorder-7 digunakan untuk menilai kecemasan. Analisis statistik menggunakan chi-square. Hasil survei menunjukkan bahwa rata-rata anggota sanggar Primadona memiliki kualitas tidur yang cukup baik, dibuktikan dengan data PSQI sebanyak 16 orang (80%) memiliki kualitas tidur yang cukup baik dan kecemasan yang minimal, terbukti dari hasil data GAD-7 sebanyak 10 orang (50%) ) memiliki kategori kecemasan minimal. Subjek dalam kategori cukup baik rata-rata memiliki kecemasan minimal dan melakukan olahraga 5 kali dalam seminggu, sedangkan subjek dalam kategori cukup buruk rata-rata memiliki kecemasan ringan dan melakukan olahraga 3 kali dalam seminggu. Dapat disimpulkan bahwa senam *body performance* memiliki pengaruh yang baik terhadap kualitas tidur dan kecemasan anggota senam *body performance* di Studio Primadonna. Semakin sering dan konsisten peserta melakukan senam *body performance*, kecemasan menurun dan kualitas tidur lebih baik. Sebaliknya semakin jarang latihan kecemasan meningkat dan kualitas tidur memburuk. Penelitian selanjutnya diharapkan mampu menghubungkan kualitas tidur, kecemasan, dan variabel lain yang relevan, dengan subjek dan pandangan yang bervariasi dari berbagai perspektif**.**
**Kata kunci:** kualitas tidur, kecemasan, senam *body performance*

## INTRODUCTION

Sleep is one of the determining factors for a person's mental health. Lack of sleep makes a person anxious and irritable the next day. The American Academy of Sleep Medicine says that adults need at least 7 to 8 hours of sleep per day to maintain optimal health (Chaput et al., 2018; Hirshkowitz et al., 2015). If less than this time can lead to worsening mental health, the wrong one is anxiety. Sleep deprivation and anxiety are closely related. Those who experience sleep disorders often experience anxiety problems, and vice versa those who experience anxiety disorders often experience sleep problems. When a person doesn't sleep well, the body releases more cortisol, the stress hormone. , can cause anxiety and low energy due to lack of sleep. The more active your nervous system is, the harder it will be to fall asleep (Akçay et al., 2018; Alqahtani et al., 2022; Cox & Olatunji, 2016; Nugroho & Astutik, n.d.; Setyarini et al., 2022). One study found that sleep deprivation increased responses in the amygdala and anterior insula, parts of the brain associated with anxiety. This response is strongest in people who show high levels of anxiety (Goldstein et al., 2013).

Lack of sleep does not mean someone will feel more anxious. However, research shows that people who are already prone to anxiety become more anxious when they are sleep deprived. A 2020 study found that people with symptoms of insomnia are more likely to feel anxious during times of stress. Common disorders associated with insomnia include generalized anxiety disorder, depression, and post-traumatic stress disorder (PTS, panic disorder). A 2020 study on sleep disorders and anxiety in PTSD found a two-way link between sleep problems and anxiety. This means that sleep disturbances can cause anxiety and anxiety can cause sleep disturbances. Although sleep disturbances do not directly cause anxiety disorders, they can cause anxiety (Alshammari et al., 2022; American Psychiatric Association, 2012; Gad et al., 2022; Hughesa & Al, 2018; Support, 2022).

The quality of sleep greatly affects anxiety and can be influenced by the nature of one's job, level of physical activity, engagement in exercise, and participation in sports. Physical exercise and exercise can affect sleep quality and anxiety. Regular physical activity, according to physical ability, improves sleep quality and reduces or prevents anxiety. Sedentary people sleep less and experience more anxiety. Physical exercise can improve sleep quality and reduce one's anxiety level. Examples are breathing exercises, muscle stretching, weight strengthening exercises, balance exercises, swimming,


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walking, and dancing (World Health Organization, 2020) (Anderson & Shivakumar, 2013; Jayakody et al., 2014). However, on the other hand, there are still many people who have done physical exercise and sports but it still has no effect on good sleep quality and still experiences anxiety. As researchers observed, several women were active in the gym, aerobics, Zumba but still had poor sleep quality and high anxiety. Therefore, researchers want to know the quality of sleep and anxiety in body performance exercise, exercise that is specifically intended for women. Does it have a significant impact on sleep quality and anxiety. It is important to carry out this survey as an evaluation of appropriate exercise methods to improve a person's quality of life, especially women in Indonesia.

The author is interested in taking body performance exercises because this exercise can be said to be unique or different from other exercises. This exercise is only available in Jakarta, Indonesia. This exercise was developed by legendary Indonesian body experts, namely Mr. Arcadius Sentot Sudiharto, an artist in the field of dance from Solo, Central Java, Indonesia and Ms. Minati Atmanegara, a film, soap opera actor and Indonesian gymnastics instructor. This exercise is dedicated to improving body posture and forming the ideal female body. This physical exercise combines elements of breathing, stretching and muscle strengthening. This exercise focuses on contracting the buttocks and abdominal muscles. This body performance exercise only uses mouth breathing, not nose breathing, exhales, and inhales only using the mouth. The reason for breathing only using the mouth is because the volume of air that enters and leaves is greater than nose breathing so you can do heavy gymnastic movements within one hour. Based on this, the researcher wanted to know the relationship between physical exercise, sleep quality, and anxiety in members of the gymnastics gym at Studio Primadonna Jakarta, Indonesia (Performance & Primadonna, 2022).

## METHODS

### Design

To join withinside the take a look at, members needed to verify their reaction thru message whatsapp. After being knowledgeable of the desires and the technique of the take a look at. Before the initiation of the take a look at, moral approval turned into acquired.

### Participants

This take a look at focused member body performance in primadonna studio, which finished an nameless web-primarily based totally questionnaire. The subjects were 20 women. The inclusion standards were (i) robotically sporting out body performance gymnastics for 6 months. Frequency of workout at the least 2 instances a week (ii) over 95% final touch of survey questions.

### Study Design

This research is survey method (Baker, 2017; Becker et al., 2015; Dangal, 2021; Salkind, 2013). The study was conducted between the 27th Juli and 10th of May 2021. The research team shared a google form via Whatsapp message. This message post contained an introductory text and the purpose of the research with the anonymity of the participant.

### Instrument

*Sleep Questionnaires*

The *Pittsburgh Sleep Quality Index* (PSQI) is a questionnaire used to evaluate sleep first-class over for length of one month. Consisting of nineteen character objects, 7 additives produce one international rating, the reduce-off is five and takes five-10 mins to complete. The seven


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additives are: sleep first-class, sleep latency, sleep duration, sleep efficiency, sleep disturbances, use of drowsing pills, and daylight hours dysfunction. Additional sleep disturbances can be noted in applicable open-ended questions. Total rating from zero to 21, the better the rating, the more serious the sleep first-class Interpretation of PSQI rankings as follows:

Table 1. Norma PSQI

| | |
|---|---|
| 0 | Very good |
| 1-7 | Pretty good |
| 8-14 | Quite bad |
| 15-21 | Very bad |

*Anxiety Questionnaires*

GAD-7 is a questionnaire to evaluate an character's degree of tension. Contains 7 objects, the rating is primarily based totally on a 4-factor Likert scale from zero to 3, The better the rating, the more serious the tension signs The reduce off factors five, 10, and 15 correspond to slight, mild, and intense tension signs, respectively. A rating of 10 or extra shows a ability medical condition. GAD-7 Anxiety Severity Score This turned into calculated with the aid of using assigning rankings of zero, 1, 2, and three to the reaction categories, respectively, of "now no longer at all", "some days", "extra than 1/2 of a day", and "almost each day" (501347949-GAD-7-Indonesia, n.d.; GAD-7_Anxiety-Updated_0, n.d.) (Alshammari et al., 2022; Anindyajati et al., 2021; Setyarini et al., 2022; Thinagar & Wayan, n.d.). The overall rating of GAD-7 which includes 7 objects tiers from zero to 21. The interpretation of the rating is:

Table 2. Norma GAD-7

| | |
|---|---|
| 0–4 | Minimum tension |
| 5–9 | Slight tension |
| 10–14 | Mild tension |
| 15–21 | Intense tension |

**Statistical Analysis**

The chi-square test to analyze the relationship between *body performance,* sleep quality, and anxiety.

## RESULTS AND DISCUSSION

Based on the Table 3, Total of 20 subjects with an average age are 44 years (ranging from age 28 years to 70 years), working as housewife (12 subjects (60%) work as housewife), practicing body performance exercises 4 times per week (2 times per week for 4 subjects, 3 times per week for 4 subjects, 4 times per week for 1 subject, 5 times per week for 6 subjects, and 6 times per week for 5 subjects), average sleep quality results are 5,3, and average sleep quality results are 4,8.

Table 3. Average of Sample Data


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| Average Age | Job | Exercise Frequency | Sleep Quality | Anxiety |
|---|---|---|---|---|
| 44 | Housewife | 4 times per week | 5,3 | 4,8 |

Table 4. Sleep Quality Category

| Category | Subject (N=20) | Percentage (%) |
|---|---|---|
| Very good | 0 | 0 |
| Pretty good | 16 | 80 |
| Bad Enough | 4 | 20 |
| Very bad | 0 | 0 |

**Sleep Quality**

The results of the *Pittsburgh Sleep Quality Index* (PSQI) data, the majority of Primadonna studio members have a fairly good sleep quality, as evidenced by the results of the PSQI data as many as 16 subjects (80%) have a pretty good category, bad enough category as many as 4 subjects (20%).

Table 5. Anxiety Category

| Category | Subject (N=20) | Percentage (%) |
|---|---|---|
| Minimum tension | 10 | 50 |
| Slight tension | 8 | 40 |
| Mild tension | 1 | 5 |
| Intense tension | 1 | 5 |

**Anxiety**

The results of the anxiety questionnaires data, the majority of Primadonna studio members have minimum tension, as evidenced by the results of the GAD-7 data as many as 10 subjects (50%) have a minimum tension category and 8 subjects (40%) have a slight tension category.

Table 6. Sleep quality and anxiety

| Category | Subject (N=20) | Percentage (%) | Anxiety |
|---|---|---|---|
| Very good | 0 | 0 | |
| Pretty good | 16 | 80 | Minimum tension |
| Quite bad | 4 | 20 | Slight tension |
| Very bad | 0 | 0 | |

Subjects with a pretty good category on average have minimum tension, while subjects with a bad enough category on average have slight tension. It can be seen that the Asimp .Sig value is 0.022 <0.05, it can be concluded that there is a significant relationship between sleep quality and anxiety. It can be interpreted that the sleep quality of Primadonna members correlates with the level of anxiety they have.

Based on research data, the majority of exercise participants have fairly good sleep quality and very low anxiety. However, there were 4 participants who had quite poor sleep quality, 1 person with moderate anxiety level, and 1 person with severe anxiety level. The level of sleep quality and anxiety of body performance exercise participants can be caused by many factors, such as age, hobbies, work, diet/nutrition patterns, type of physical exercise/sport performed, frequency of exercise per week, intensity of exercise. each individual's physical training, mindset, and many others. The majority of participants with good sleep quality did body performance training at least


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5 times a week, while those with poor sleep quality exercised at least 3 times a week. Sometimes it is difficult to determine the exact cause of a person's level of sleep quality and anxiety level, requiring a deeper interpretation of the trigger factors. According to research conducted by professionals, individuals with anxiety disorders vary in the severity of their symptoms and their impact on daily routines. The specific reasons behind the occurrence of anxiety are still not known for certain. Researchers believe that anxiety is not caused by one particular cause, but rather is caused by a variety of factors such as a person's genetics, family history, level of physical activity, and various health problems or medications they may be taking.

It has long been recognized that significant sleep disturbances, such as insomnia, are a frequent sign of anxiety disorders. People who experience anxiety often think about their worries while in bed, and this nighttime anxiety can prevent them from falling asleep. However, certain studies provide evidence that anxiety can be reduced by regularly doing light to moderate physical exercise that is structured and organized. It includes breathing exercises, stretching and muscle relaxation, as well as exercises that focus on strengthening muscles, improving balance and increasing cardiovascular endurance. Engaging in an exercise program is an effective option for managing anxiety. According to research conducted by (Aylett et al., 2018) it was found that high intensity exercise is actually more beneficial than low intensity exercise. The findings of this study have important consequences for incorporating exercise programs into primary health care. Both animal studies and human clinical trials suggest that exercise can be used as a treatment for anxiety and depression. The fundamental processes involved consist of controlling the formation of brain-derived neurotrophic factor (BDNF), D-β-hydroxybutyrate, communication between synapses, hypothalamic-pituitary-adrenal (HPA) axis, tryptophan hydroxylase, GSK3β/β-catenin, neuroinflammatory pathways , oxidative stress, oxidative stress axis, and PGC-1α1-PPAR (Hu et al., 2020). Research conducted by (Çifçi & Demir, 2020) revealed that individuals who regularly exercised during the COVID-19 pandemic experienced better mental health and well-being compared to those who did not exercise. In addition, among participants who exercised, women showed higher levels of anxiety than men, while women who did not exercise had higher levels of anxiety than men. In addition, women who do not exercise also report lower levels of well-being than men. The findings of this study indicate that physical activity has an important impact in reducing anxiety in all groups. So, including a regular physical exercise routine is seen as a component to improve anxiety levels (Cerika rismayanthi, 2012; Prasetyo, 2015; Kalmbach et al., 2018). Apart from reducing anxiety, physical exercise can also help improve a person's sleep quality. Based on the theory of several experts and based on direct observation experience, appropriate exercise to improve sleep quality is yoga, Pilates, walking, swimming, bodyweight training, and rhythmic gymnastics (Banno et al., 2018; Dolezal et al., 2017; Finds, 2021; Johns Hopkins Medicine, 2021).

Intense or late-night physical exercise or exercise is not recommended due to the negative effects these activities have on sleep quality. However, some contemporary studies argue that exercise before bed has no significant effect on sleep. For example, exercise a few hours before bed to see which routine best improves sleep quality. A person needs sufficient and quality sleep to be able to carry out a physical exercise plan well. Physical exercise or exercise does not need to be excessive, although longer and more strenuous exercise or exercise can produce better physical improvements. Simply doing physical exercise or moderate intensity exercise for 30 minutes every day can reduce anxiety and help you sleep better at night. Rather than focusing on the amount of physical exercise each day, we must commit to daily physical exercise consistently and throughout life. A study found that regular moderate intensity aerobic exercise for six months was very effective in improving sleep quality and overall quality of life (Anderson & Shivakumar, 2013; Jayakody et al., 2014). Apart from doing physical exercise, a person also needs to adhere to recommended sleep hours according to age, adopt a healthy lifestyle, and be able to manage stress


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and anxiety. National Sleep Foundation guidelines suggest that healthy adults need between 7 and 9 hours of sleep per night. Babies, young children, and teenagers need more sleep to allow for growth and development. People over 65 years of age should also get 7 to 8 hours per night. It is important to consider personal needs based on factors such as your activity level and overall health. It is necessary to apply healthy sleep tips for better sleep quality (Gad et al., 2022; National Sleep Foundation, 2016; Kemenkes, 2019).

## CONSLUSION

Body performance gymnastics, sleep quality, and anxiety of members of body performance gymnastics at Studio Primadonna are correlated. When a person rarely does physical exercise, anxiety increases and sleep quality decreases, while when a person does regular physical exercise, anxiety decreases and sleep quality is better. A person's anxiety level and sleep quality can be improved through regular, consistent, and tailored physical exercise to the capacity of each individual. The intensity, frequency, and type of exercise performed are based on the capacity of each individual. In addition to doing physical exercise, a person also needs to adhere to the recommended sleep hours according to age and can manage stress and anxiety. Future research is expected to be able to link sleep quality, anxiety, and other relevant variables, with varied subjects and views from various perspectives.

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