

Stress Reduction through Cognitive Behavioral Therapy

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ABSTRACT

The purpose of this study is to identify the level of stress and symptoms among houseman and assess the effectiveness of Cognitive Behavioral Therapy in reducing stress. A single participant was selected through purposive sampling from among houseman. Quantitative data were collected using the Perceived Stress Scale while qualitative data were derived from verbatim transcripts of counseling sessions. Descriptive analysis of the Perceived Stress Scale scores and content analysis of the transcripts were used to examine stress levels and symptoms. The findings revealed high perceived stress among the participant, with symptoms evidence across emotional, physiological, cognitive, and behavioral domains. The counseling sessions effectively reduced stress levels from high to moderate, highlighting the potential of Cognitive Behavior Therapy as an intervention for managing stress among houseman.

Keywords: Cognitive Behavioral Therapy, Houseman, Stress, Symptoms.

INTRODUCTION

Stress is a universal experience that spans the entirety of the human lifespan and has been an integral part of individual and collective histories (Shahsavarani et al., 2015). It is a defining aspect of life, receiving significant attention in literature and the arts throughout history (De Raeve et al., 2007). The increasing prevalence and complexity of stress in modern societies can be attributed to the intricate dynamics of social, personal, and ecological environments, as well as the diverse ways in which humans interact with and express these challenges (Edwards et al., 2008).

The Malaysian Medical Act 1971 defines 'housemanship' as a period of medical residency training required to become a fully certified medical practitioner (Tambol et al., 2020). During this training, medical trainees are referred to as housemen or houseman in Malaysia, though other terms such as junior doctor, trainee resident, or intern resident may be used in different countries. This mandatory training aims to enhance public healthcare services by developing doctors who are patient-centered and proficient healthcare professionals (Tan et al., 2013). In Malaysia, housemen rotate through six departments over 24 months, spending four months each in General Medicine, Surgery, Orthopedics, Pediatrics, Obstetrics and Gynecology, and Emergency/Anesthesia/Psychiatry/Family Medicine (Health Clinic) (Kementerian Kesihatan Malaysia, 1996).

Houseman frequently encounter high-pressure situations during their two-year housemanship, significantly affecting their quality of life and overall well-being (Tambol et al., 2020). This phase involves navigating the demanding transition from dependence to independence, from responsibility to accountability, and from student to teacher and leader (Ackerman et al., 2009). Housemanship is widely recognized as one of the most challenging stages in the medical career pathway. In Malaysia, 71.2% of houseman report experiencing high stress levels (Vivekanandan et al., 2016), while a study by Ang and Johari (2008) found that 67.8% of first-year houseman perceived housemanship as highly or extremely stressful. These challenges are not unique to Malaysia; in the United Kingdom, research by the Royal College of Physicians (2016) revealed that four out of five junior doctors occasionally or frequently experience excessive stress due to their work.

While substantial research has explored stress among undergraduate medical students (Abdulghani et al., 2011; Alzahem et al., 2013) and postgraduate residents (Tyssen et al., 2000), relatively little attention has been given

to stress levels among houseman or junior doctors. Cognitive Behavioral Therapy, supported by over 350 outcome studies (Anclair et al., 2018), has proven effective in managing psychological disorders. However, its application in addressing stress among houseman remains underexplored. This study aims to address this gap by implementing Cognitive Behavioral Therapy interventions to evaluate their effectiveness in reducing stress levels among houseman

LITERATURE

The challenges faced by houseman in Malaysian hospitals have garnered significant attention from the local media (Vivekanandan et al., 2016). Numerous complaints from houseman have been reported, with some parents voicing frustrations over the difficulties their children face during housemanship (Vivekanandan et al., 2016). This pressing issue requires further investigation to identify solutions that address the challenges encountered by houseman and ensure the sustainability of the healthcare workforce. According to Ranjit Kumar (2005), research objectives are the specific goals that a researcher aims to achieve in a study. The objectives of this study are as follows:

1. To assess the level of stress among houseman in a government hospital before and after the implementation of the cognitive behavioral therapy.
2. To identify the symptoms of stress experienced by houseman

Figure 1 shows the conceptual framework that includes two variables. This study involves two key variables: the dependent variable and the independent variable. According to Gay and Airasian (2000), the dependent variable represents the response observed when influenced by the independent variable, while the independent variable acts as the stimulus or factor that affects other variables. The independent variable is defined as the variable whose parameters are measured, manipulated, or selected by the researcher to examine its relationship with a specific phenomenon. In this study, the Cognitive Behavioral Therapy serves as the independent variable, introduced as a stimulus to address stress among houseman, the dependent variable. The study aims to examine the levels and symptoms of stress, focusing on cognitive, emotional, behavioral, and physiological aspects.

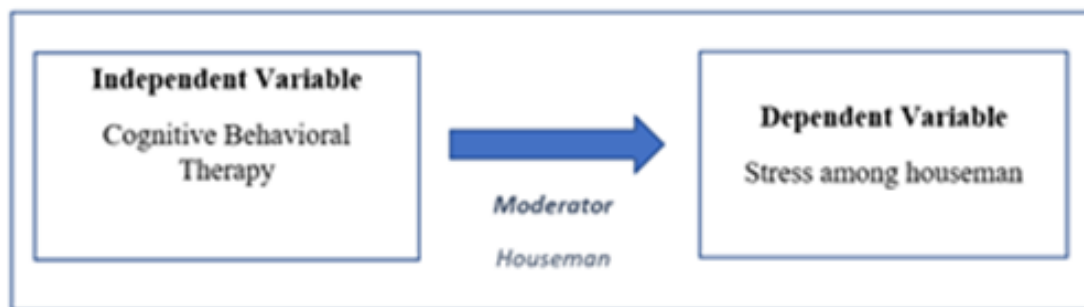


Figure 1 Conceptual framework

Stress arises when an individual's resources are insufficient to meet the demands and pressures of a situation, resulting in psychological and physical strain (Hassan et al., 2014). Practicing medicine is inherently demanding, involving long hours, ethical dilemmas, and interactions with difficult patients (Hassan et al., 2014). A local newspaper reported that a significant number of doctors in Malaysia leave their medical careers due to stress (Yusoff, 2011). The findings highlighted that work-related stress among doctors has reached alarming levels (Yusoff, 2011). This study observed that 31% of houseman experienced significant stress, a higher percentage than the 20% reported by the Malaysian Director-General of Health, Tan Sri Dr. Mohd Ismail Merican, who noted that at least five doctors per month faced mental health challenges (Yusoff, 2011).

Ismail (2021) further corroborated these findings through research involving 431 houseman across 26 Malaysian Ministry of Health institutions. The study revealed a stress prevalence of 29.7%, with younger houseman experiencing stress at significantly higher rates. These findings align with previous studies on stress prevalence among undergraduate medical students and postgraduate trainees, likely due to similarities in their

medical environments (Yusoff, 2011). Additionally, a study involving 1,006 houseman across 28 Ministry of Health hospitals in Malaysia reported that 67.8% found the housemanhip period to be highly stressful (Ang, 2008).

Similarly, a survey conducted in Karachi found that nearly half (47.9%) of houseman working at the Civil Hospital and Jinnah Postgraduate Medical Centre reported experiencing extreme stress daily (Hassan et al., 2014). The primary sources of stress included night calls, workload, time pressure, working alone, and diagnostic uncertainty (Hassan et al., 2014). In 2014, Abdulghani reported that over 73% of houseman experienced stress, with 34.9% experiencing severe stress, followed by mild (19.3%) and moderate (18.8%) levels (Abdulghani, 2014). Stress levels were highest during clinical rotations in medicine (78.8%), followed by surgery (74.7%), pediatrics (72.4%), obstetrics and gynecology (70.1%), and emergency medicine (58.3%) (Abdulghani, 2014).

Junior doctors are particularly susceptible to poor well-being and elevated stress due to long working hours, demanding job conditions, and the challenge of balancing personal and professional responsibilities. This issue is a global phenomenon, with junior doctors worldwide facing similar challenges. These pressures often manifest as stress symptoms across emotional, cognitive, physiological, and behavioral dimensions. Emotionally, a study conducted in the UK with 34 junior doctors revealed that 60% of the narratives from interviews reflected negative emotions (Lundin et al., 2018). Stressful situations and intense emotional stimuli can significantly impair an individual's ability to regulate their emotions effectively (Raio et al., 2013; Sheppes et al., 2011).

Cognitively, stress can lead to impairments such as low self-esteem (Vivekanandan et al., 2016) and negative thoughts, including contemplating resignation. A Malaysian survey reported that 53% of 1,006 houseman had considered quitting their jobs at some point due to stress (Ang & Johari, 2008). Physiologically, stress can impact productivity and overall well-being (Abdulghani, 2015). The demanding workloads and compassion fatigue associated with the role hinder junior doctors' ability to maintain a healthy lifestyle (Hobi et al., 2022). Workplace constraints often prevent them from engaging in regular exercise, getting adequate sleep, participating in leisure or social activities, or maintaining a balanced diet (Hobi et al., 2022). Behaviorally, work-related pressures such as long hours and night shifts may lead to social withdrawal, a common indicator of behavioral stress (Hobi et al., 2022). Additionally, heightened stress levels can disrupt daily functioning and hinder productivity (Abdulghani, 2015).

Cognitive Behavioral Therapy is grounded in Beck's (1964) cognitive model of mental illness. This model posits that people's emotions and behaviors are influenced by their perceptions of events, rather than the events themselves (Beck, 1964). In other words, it is not the situation that determines how individuals feel, but how they interpret the situation. For instance, individuals with depression are believed to have excessively negative interpretations of events (Beck, 1976). A central aspect of the cognitive model is the conceptualization of cognition, which encompasses both the way people think and the content of their thoughts. Beck (1976) identified three levels of cognition:

- i. Core beliefs – Deeply ingrained perceptions about oneself, others, and the world, often formed during childhood and influenced by early life experiences. These beliefs, also known as schemas, are typically regarded as absolute (Fenn & Byrne, 2013).
- ii. Dysfunctional assumptions – Rigid, conditional "rules for living" that people develop, which are often impractical and maladaptive (Fenn & Byrne, 2013).
- iii. Negative automatic thoughts (NATs) – Spontaneous, uncontrollable thoughts that arise in specific situations. Under stress, NATs often center around themes of negativity, low self-esteem, and helplessness (Fenn & Byrne, 2013).

Beck (1976) also introduced the cognitive triad, which explains how negative core beliefs relate to three areas:

- i. The self (e.g., "I'm useless").
- ii. The world/others (e.g., "The world is unfair").
- iii. The future (e.g., "Things will never work out for me").

In Cognitive Behavioral Therapy, the cognitive model serves as a framework to understand a person's psychological distress or current problems (Fenn & Byrne, 2013). Formulation is the process of integrating an individual's experiences into this cognitive-behavioral framework. Eels (1997) defines a formulation as "a theory concerning the causes, precipitants, and long-term impacts of a person's issues." This collaborative process helps both the therapist and the individual make sense of their experiences, facilitating a shared understanding of the issues (Fenn & Byrne, 2013).

Beck et al. (1979) also proposed a longitudinal model of depression, which illustrates how early experiences, such as parental rejection, shape core beliefs. These beliefs give rise to dysfunctional assumptions (e.g., "Unless I am loved, I am worthless"). When activated by critical incidents (e.g., loss), these assumptions trigger negative automatic thoughts, ultimately leading to symptoms of depression (Fenn & Byrne, 2013).

In Germany, Mache et al. (2015) conducted a controlled trial with 82 junior doctors, randomly assigning them to either an intervention group or a control group for three months. The intervention group received resilience training, cognitive behavioral therapy and solution-focused counseling. Compared to the control group, the intervention group showed significant improvements in perceived stress, resilience, self-efficacy, and optimism between baseline and follow-up (Mache et al., 2015). These findings highlight the effectiveness of interventions aimed at enhancing resilience and reducing stress among junior doctors.

In Australia, Holt and Del Mar (2006) conducted a study involving 161 doctors identified as stressed based on their ratings. After undergoing CBT, the participants reported significant reductions in stress levels, as measured by the GHQ-12 scale. Research has shown that combining cognitive restructuring with positive behaviors or coping mechanisms effectively alleviates psychological distress (Nguye, 2017; Sheptycki, 2020). These findings underscore the potential of cognitive restructuring as a valuable tool for managing stress and improving well-being.

This study alongside similar research conducted in other regions can enhance understanding and inform cross-cultural adaptations. Globally, studies consistently identify stress as a significant issue among healthcare professionals, particularly junior doctors. Research from the United Kingdom (Lundin et al., 2018) and Australia (Hobi et al., 2022) has highlighted workload, inadequate support systems, and long hours as primary stressors, aligning closely with the findings of this study.

However, systemic factors such as healthcare infrastructure, cultural expectations, and professional hierarchies significantly influence the intensity and perception of stress. For instance, Nordic countries, which boast well-established support systems, report comparatively lower stress levels among healthcare professionals, underscoring the critical role of systemic support (Mache et al., 2015). In contrast, studies from South Asia, including India and Pakistan, reveal heightened stress levels due to limited resources, hierarchical workplace dynamics, and societal pressures (Hassan et al., 2014). These variations emphasize the importance of considering cultural and systemic differences when interpreting stress-related challenges and intervention effectiveness.

In addition, to enhance the global applicability of Cognitive Behavioral Therapy interventions, several adaptations can be proposed. First, incorporating cultural sensitivity into intervention design is essential. Techniques should reflect cultural norms and values, such as integrating group therapy or family involvement in collectivist societies. Additionally, language and examples used in therapy should be tailored to align with local idioms and culturally specific stressors. Flexibility in delivery is also crucial, particularly in resource-limited settings where digital platforms, teletherapy, or group-based sessions can overcome logistical barriers. Simplified techniques, such as brief mindfulness exercises, may also improve accessibility and scalability. Furthermore, integrating interventions with existing support systems, such as community-based organizations or traditional healers, can enhance acceptance and trust in the therapeutic process.

Global collaboration offers an avenue for sharing best practices and refining interventions to suit diverse healthcare settings. Developing standardized frameworks for stress management, adaptable to various cultural and systemic contexts, would facilitate broader implementation. Moreover, addressing societal and systemic factors, such as workplace policies, gender disparities, and inequitable resource distribution, is essential for

creating sustainable change. Policies promoting organizational support and fostering positive workplace environments should accompany individual-level interventions to ensure comprehensive stress reduction.

In conclusion, contextualizing and adapting stress management interventions like Cognitive Behavioral Therapy to address cultural and systemic factors is critical for enhancing their effectiveness and global relevance. By integrating culturally sensitive approaches and leveraging insights from global research, interventions can be tailored to diverse populations while maintaining their therapeutic integrity. Future research should prioritize cross-cultural studies and collaborative efforts to develop interventions that holistically address both individual and systemic contributors to stress in healthcare settings.

METHODOLOGY

This study employed a single case study approach to evaluate the effectiveness of the Cognitive Behavioral Therapy in reducing stress levels among houseman in a government hospital. Data collection was conducted using a mixed-method approach, combining both qualitative and quantitative research methods. As described by Gay et al. (2000), a mixed-method approach integrates quantitative data, gathered through psychometric testing, with qualitative insights obtained during counseling sessions. This approach aligns with Creswell and Clark's (2011) assertion that mixed methods can provide a detailed understanding of research problems while allowing for generalization of findings.

For the quantitative component, data were collected using the Perceived Stress Scale. This instrument facilitated the comparison of stress levels before and after the intervention, enabling an assessment of the cognitive restructuring technique's effectiveness. Additionally, pre-test and post-test evaluations were conducted to measure changes in the client's stress levels, addressing the research question. While the qualitative component, the study utilized transcriptions of audio-recorded counseling sessions to collect and analyze non-numerical data. The qualitative data provided deeper insights into the client's experiences and progress throughout the intervention. This study involved a single participant who underwent six consecutive counseling sessions, allowing the researcher to explore the intervention's impact in a focused and detailed manner.

This study employs a one-group pretest-posttest design, a quasi-experimental research method where the same dependent variable is measured both before (pretest) and after (posttest) an intervention. The difference between the pretest and posttest scores is then analyzed to evaluate the effectiveness of the therapy (Jhangiani, 2015). The Perceived Stress Scale is used to assess stress levels before and after the intervention. By comparing the pretest and posttest scores, the study aims to determine the effectiveness of the Cognitive Behavioral Therapy in reducing stress levels among houseman in a government hospital.

The researcher employed a purposive sampling method, as this study is a single case study involving only one participant as the client. According to Gay et al. (2000), this sampling technique is used to select respondents who meet specific criteria defined by the researcher. In this case, the participant was required to exhibit high perceived stress, as measured by the Perceived Stress Scale (PSS), with a score ranging from 27 to 40. This criterion ensures the suitability of the participant for evaluating the approach of the Cognitive Behavioral Therapy in the study.

To conduct this research, the Perceived Stress Scale by Cohen et al. (1983) is used for data collection. The instrument is a widely recognized tool for assessing stress levels. Despite being developed in 1983, it remains a popular choice for understanding how various events influence individuals' moods and perceived stress (Scale, 2019). The scale includes questions designed to assess participants' thoughts and feelings over the past month. Respondents are asked to rate how often they experienced specific feelings or thoughts on a five-point scale ranging from "never" to "very often" (Scale, 2019).

The Perceived Stress Scale-10 (PSS-10) consists of ten items, each scored on a Likert scale ranging from 0 to 4, where 0 represents "never," 1 "almost never," 2 "sometimes," 3 "fairly often," and 4 "very often." For positively worded items (items 4, 5, 7, and 8), the scores are reversed: 0 becomes "very often," 1 "fairly often," 2 "sometimes," 3 "almost never," and 4 "never." The total score is calculated by summing all item scores, with

higher scores indicating greater levels of perceived stress (Sandhu et al., 2015).

The PSS-10 is not intended for diagnostic purposes but rather to measure the severity of stress (Al-Dubai et al., 2014). Stress severity is classified as follows (Scale, 2019):

- Scores 0–13: Low stress
- Scores 14–26: Moderate stress
- Scores 27–40: High perceived stress

The PSS-10 has been validated as an effective tool for measuring stress among medical residents and healthcare workers in Malaysia (Al-Dubai et al., 2014; Sandhu et al., 2015). Its validity has also been demonstrated in other countries, including Brazil, Spain, and Japan (Siqueira Reis et al., 2010; Mimura & Griffiths, 2008). Lee's (2012) analysis confirmed that the PSS-10 demonstrates a high level of internal consistency across both adult and university student populations. Several studies conducted in Malaysia, Europe, and South America have shown that the PSS-10 is a reliable tool for measuring stress (Al-Dubai et al., 2014; Sandhu et al., 2015; Reis, 2006; Siqueira Reis et al., 2010). Cohen et al. (1988) found correlations between PSS scores and various health-related variables, including perceived stress, self-reported health, health service usage, health behaviors, smoking status, and help-seeking behavior.

The case transcriptions for this study were derived from interviews conducted during six individual counseling sessions. The recordings from these sessions were transcribed into written form and analyzed to address the research objectives. The analysis focused on identifying themes relevant to the study. To assess stress levels using the PSS and to gain a deeper understanding of the issues discussed during the interviews (Folstein et al., 1975).

In this study, methodological triangulation was applied to evaluate the effectiveness of the cognitive restructuring technique in reducing the client's stress levels. This was achieved by utilizing both quantitative data from the instrument and qualitative data from verbatim transcripts. Six counseling sessions were conducted, each lasting 30 minutes. The Perceived Stress Scale was administered at four intervals: before the first session (pre-test), after the third session (post-test 1), after the sixth session (post-test 2), and one month following the completion of the sixth session (post-test 3). Clients were selected based on predefined criteria indicating a high level of stress. The treatment process began once the client provided informed consent, voluntarily agreeing to receive counseling services and permitting the therapist to audio-record the sessions.

The session structure for the Cognitive Behavioral Therapy intervention is designed to address stress comprehensively, progressing through distinct phases. The initial session focuses on assessment and rapport building, where the therapist introduces the therapy process, establishes trust, and administers the Perceived Stress Scale to establish a baseline measurement. This session also includes a detailed discussion of the participant's personal history to identify key stressors. Sessions two and three center on cognitive restructuring, exploring and challenging negative automatic thoughts and cognitive distortions such as all-or-nothing thinking and catastrophizing. Techniques are introduced to help participants identify and modify these distortions, fostering more rational and constructive thought patterns.

Session four emphasizes behavioral activation, encouraging the participant to engage in activities that counteract avoidance and withdrawal behaviors, with a focus on hobbies and positive social interactions. The fifth session addresses skill development, equipping the participant with stress management techniques, such as relaxation exercises and mindfulness practices, alongside problem-solving strategies tailored to workplace challenges. The final session is dedicated to consolidation and relapse prevention, reviewing progress through post-test PSS scores, creating a personalized plan for sustaining gains, and scheduling follow-up checks.

The techniques used in the intervention span several domains. Cognitive techniques include the identification and modification of core beliefs and dysfunctional assumptions, supported by tools like thought records and Socratic questioning. Behavioral techniques involve graded exposure to stressful situations and the scheduling of enjoyable, meaningful activities. Mindfulness and relaxation strategies, such as deep breathing exercises, progressive muscle relaxation, and mindfulness-based stress reduction, complement these approaches. Skill-

building focuses on practical areas, including time management, organizational strategies, and communication skills to navigate workplace dynamics effectively.

Therapists conducting this intervention are required to have a background as Registered Counsellor who is practitioner in Malaysia, formal training in Cognitive Behavioral Therapy, and experience with stress management interventions. Familiarity with the unique challenges faced by medical housemen is essential for tailoring the approach effectively. Participant engagement is ensured through weekly sessions over six weeks, with active involvement in identifying stressors and applying therapeutic techniques. Homework assignments, such as maintaining thought logs and practicing relaxation exercises, are integral to the process, and consistent feedback on progress helps to reinforce commitment and motivation.

Counselling session	Focus	Techniques	Goal
1	Build relationship assessment	Establish therapy goals and administer Perceived Stress Scale	Therapeutic relationship, establish trust and baseline stress level
2	Cognitive Behavioral Therapy	Identify stressor negative automatic thoughts	Identify the negative thinking
3	Cognitive Restructuring	Challenge distortions and develop rational thoughts	Reduce negative thinking
4	Behavioral Activation	Schedule positive activities and address avoidance behaviors	Improve mood and engagement
5	Skill Development	Teach stress management and problem-solving strategies.	Enhance coping skills.
6	Consolidation & Prevention	Review progress, plan for relapse prevention.	Sustain therapy gains.

Table 1 Cognitive Behavioral Therapy Process

A comprehensive evaluation framework is essential for assessing the effectiveness of the Cognitive Behavior Therapy intervention, incorporating quantitative, qualitative, and process-based measures. Quantitative evaluation employs the Perceived Stress Scale as the primary tool, administered at multiple intervals with pre-intervention, mid-intervention, post-intervention, and follow-up for one month or more to track changes in perceived stress levels.

Qualitative evaluation involves transcription analysis of recorded sessions to uncover themes related to emotional, cognitive, behavioral, and physiological changes. Participant journaling or reflection logs provide additional insights into subjective experiences throughout the intervention. Thematic analysis is employed to identify recurring patterns of improvement or challenges, with a focus on shifts in participants' perspectives and coping strategies.

Process evaluation assesses therapist performance and participant engagement. Therapist adherence to Cognitive Behavioral Therapy principles and techniques is evaluated using tools such as the Cognitive Therapy Rating Scale, with regular supervision or peer review ensuring high-quality delivery. Participant engagement is monitored through attendance records, active participation, and homework completion rates, which reflect the commitment and application of therapeutic techniques.

Longitudinal follow-up is conducted post-intervention to assess sustained effects. The PSS and secondary tools are administered at three-month and six-month intervals, complemented by follow-up interviews to explore long-term coping strategies and relapse prevention. Comparative evaluation strengthens the study by incorporating a control group that either receives no intervention or an alternative approach, such as stress management workshops.

Finally, stakeholder feedback from both participants and therapists provides valuable insights for refining the intervention. Participant feedback is gathered through structured interviews or surveys to evaluate the perceived impact and identify particularly beneficial techniques. Therapists participate in debriefing sessions to share challenges and suggest areas for improvement. This multi-faceted evaluation approach ensures a thorough understanding of the intervention’s effectiveness and areas for enhancement.

DISCUSSION

The study findings are presented in three sections. The first section addresses the level of stress experienced by houseman before and after the intervention. The second section analyzes the symptoms of stress observed among the houseman.

The Perceived Stress Scale was administered at four intervals: before the first session (pre-session), after the third session, after the sixth session, and one month following the completion of the sixth session. Quantitative data analysis was performed to interpret the client's scores, with the results presented in Table 1.

Test	Data	Score	Score difference	Score difference (%)	Level of stress
Pre-test	1	29	-	-	High stress
Post-test	1	26	3	7.5	Moderate stress
Post-test	2	22	4	10	Moderate stress
Post-test	3	20	2	5	Moderate stress

Table 2 Scoring of Perceived Stress Scale

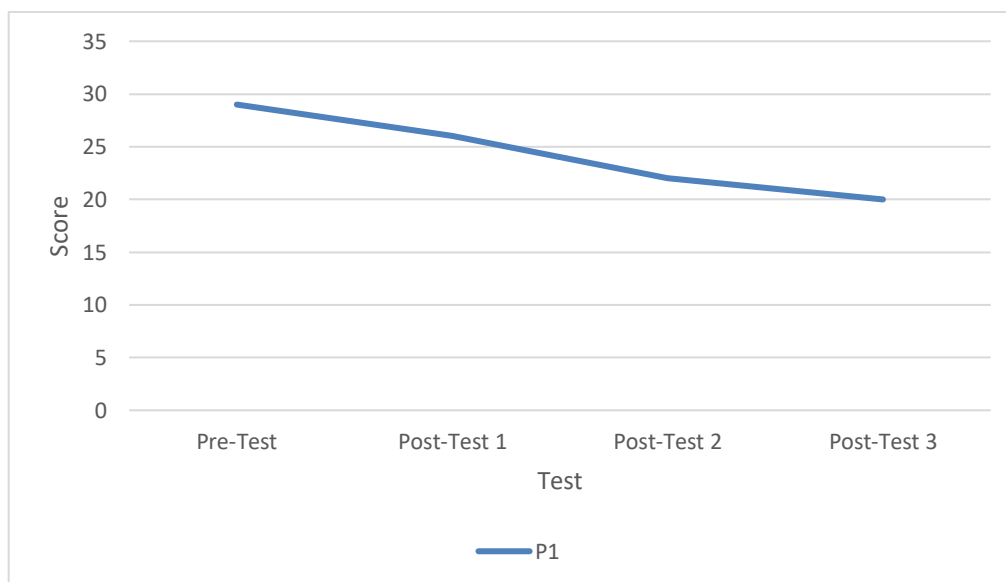


Figure 1 Result of Perceived Stress Scale

Table 2 and Figure 1 presents the client's scores, score differences, percentage changes, and stress levels as measured by the Perceived Stress Scale before and after the counseling sessions. The client's initial score (pre-test) was 29, categorized as high perceived stress. At post-test 1 (after the third session), the score decreased to 26, classified as moderate perceived stress, reflecting a reduction of 3 points and a 7.5% decrease. Post-test 2 (after the sixth session) showed the score further decreased to 22, remaining at the moderate perceived stress level, with a reduction of 4 points and a 10% decrease from the previous score. While post-test 3 (one month after the sixth session), the score dropped to 20, still within the moderate perceived stress range, showing a reduction of 2 points and a 5% decrease from the prior score.

Hence, to identify the stress symptoms experienced by houseman through transcription analysis of six counseling sessions. The transcription analysis enabled the researcher to identify emotional, cognitive, physiological, and behavioral symptoms associated with the client's stress.

Emotional Symptoms

The analysis of counseling sessions revealed several emotional symptoms experienced by the client, including sadness due to low self-worth, regret over choosing a career in medicine, and frustration caused by mistreatment from superiors.

Sadness

"But if the medical officer (MO) is good, even if we do something imperfectly and know it's our mistake, I'll feel like I'm not a good doctor. I feel like I'm not qualified to be a doctor. Then I feel stressed and also sad." (Session 2, Line 61)

Regret

"I regret this decision. Why did I choose to become a doctor? These kinds of thoughts keep coming to my mind." (Session 2, Line 61)

Frustration

"... I was treated badly after making one mistake. They ignored me and didn't listen to my case presentation. I was even called 'stupid' by them. At that moment, I felt extremely stressed and frustrated, and I even thought about quitting." (Session 1, Line 70)

Cognitive Symptoms

Cognitive symptoms identified include low self-esteem due to workplace pressure and persistent negative thoughts.

Low Self-Esteem

"At the same time, I see my colleagues performing well, but I make so many mistakes. I feel like I'm not capable of being a doctor. At one point, I felt like everyone saw me as an unreliable doctor." (Session 1, Line 34)

"Usually, after rounds, I start working immediately. But if I miss something, I'm scared to ask because I fear being scolded." (Session 4, Line 123)

Negative Thoughts

"... There are so many things I don't know, and many times I lack confidence in making decisions. It makes me wonder if I can even become a doctor or complete my two years as a houseman. Because of this, I feel like I can't do it and want to quit." (Session 1, Line 33)

Physiological Symptoms

The client exhibited physiological symptoms, including lethargy due to excessive workload, poor appetite, and inadequate sleep.

Lethargy

"There was a week where I didn't get a day off because I had to cover someone else's on-call shift, so I had to do double shifts. It was incredibly exhausting and added to my stress." (Session 1, Line 79)

Poor Appetite

"I'm still trying, but when I'm stressed at work, I lose my appetite and just want to finish my tasks quickly." (Session 2, Line 75)

"I'm not someone who usually eats breakfast. Sometimes, I don't even think about it because I'm too focused on work and don't have time to eat." (Session 4, Line 80)

Poor Sleep

"That's right. When I'm really stressed, I spend a lot of time in my room, but sometimes I can't sleep. Even when my body is exhausted, I can't sleep because I keep thinking too much. That makes the stress even worse." (Session 4, Line 136)

Behavioral Symptoms

Behavioral symptoms observed during the sessions included social withdrawal and self-neglect.

Social Withdrawal

"I only get one day off a week, which is honestly not enough, especially with the long working hours. On my day off, I don't go anywhere. I just stay home, sleep, lie down, play on my phone, and eat. I feel like I don't have the energy or mood to go out." (Session 1, Line 78)

Self-Neglect

"I'm not taking care of myself well. My house is messy because I live alone and don't have time to clean. Sometimes I don't even iron my clothes because I come home at 10 p.m., completely exhausted, and just go to bed. I wear whatever is available." (Session 1, Line 86)

"I don't even have time for myself. It's really hard to find time. I used to enjoy playing games, but now I just can't. That's why I said I don't have a way to release my stress anymore." (Session 1, Line 93)

The findings of this study reveal a noticeable change in the Perceived Stress Scale (PSS) scores, which were used to assess the client's level of stress before and after the counseling sessions. The PSS was administered at four intervals: pre-test, post-test 1, post-test 2, and post-test 3. The results indicate a significant reduction in the client's stress level, decreasing from high perceived stress to moderate perceived stress, with an overall reduction of 22.5%. This suggests that the intervention sessions were successfully implemented.

The reduction in stress levels was influenced by the client's commitment and active participation throughout the six counseling sessions. Research by Munder et al. (2019) emphasizes that therapy is more effective for individuals who demonstrate commitment compared to those who are less engaged. This highlights the importance of understanding the role of therapeutic commitment in achieving positive therapy outcomes.

Other contributing factors to the client's reduced stress levels included support systems and enhanced experiences, such as improved skills and knowledge. The client successfully built a strong support system with family and friends and gained new experiences that enhanced their abilities and knowledge. These elements demonstrate that the client's progress was not solely reliant on the cognitive restructuring technique but also benefited from external factors like robust support systems and personal growth.

Furthermore, the positive relationship between the counsellor and the client, combined with the effective application of basic counseling skills, significantly contributed to the outcomes. Research by Wampold (2015) highlights the therapeutic alliance—the relationship between a client and their therapist—as one of the most critical factors in successful therapy. This underscores the importance of the counselor's role in establishing and maintaining a strong, trusting relationship with their clients, which is essential for achieving positive therapy results. The results of this study demonstrate a reduction in depressive symptoms across emotional,

cognitive, physiological, and behavioral domains from the pre-session to the sixth counseling session. These changes were observed through the Perceived Stress Scale and session transcriptions.

The primary emotional symptoms identified were sadness, regret, and frustration. Client expressed feeling sad due to a low sense of self-worth, perceiving himself as incompetent and unqualified to be a doctor. He also reported regret over choosing a medical career, citing a stressful work environment and heavy workload. Additionally, the client expressed frustration caused by harassment from superiors, describing these experiences as demotivating and emotionally taxing. These narratives reflect negative emotions, consistent with findings from a UK study where 60% of junior doctors expressed negative emotions during interviews (Lundin et al., 2018). Research further supports that exposure to stressful situations or intense emotional stimuli can impair emotional regulation (Raio et al., 2013; Sheppes et al., 2011).

Two main cognitive symptoms were observed: low self-esteem and negative thoughts. The client's low self-esteem stemmed from harassment by superiors, perceived incompetence, and lack of confidence in his abilities. A Malaysian study similarly found that houseman reported low self-esteem and inadequate medical knowledge and experience as stressors. Persistent bullying, experienced by 13% of junior doctors in Malaysia (Samsudin et al., 2021), exacerbates job-related stress, leading to low self-esteem, anxiety, and thoughts of leaving the profession (Field, 2002). The client also displayed negative thoughts, expressing doubts about his ability to succeed as a houseman and contemplating resignation due to the overwhelming stress.

The client reported several physiological symptoms, including lethargy, poor sleep, and reduced appetite. The client attributed his fatigue to a heavy workload and long working hours, particularly during double shifts and on-call duties. Research has shown a strong correlation between psychological stress and fatigue (Vivekanandan et al., 2016). Stress and long working hours, especially night shifts, disrupted the client's sleep patterns. High stress levels delay sleep onset, fragment sleep, and elevate cortisol levels, further disrupting sleep cycles (Hirotsu et al., 2015). Sleep deprivation among houseman, caused by demanding schedules and patient loads, increases the likelihood of errors (Vivekanandan et al., 2016). The client noted a lack of appetite during stressful workdays. A Saudi Arabian study found that junior doctors experiencing high stress often face disrupted eating and sleeping habits, increasing the risk of accidents and impairing learning (Abdulghani et al., 2014).

Behavioral symptoms observed included social withdrawal and self-neglect. The client avoided social interactions with family and friends, preferring to stay home and disengage. This aligns with findings by Zhou et al. (2019), which noted that long working hours and night shifts reduce social engagement among junior doctors. Prolonged isolation negatively impacts mental and physical health, sleep, and eating patterns (Cacioppo & Hawkey, 2003). The client reported neglecting self-care due to job-related stress, such as living in a disorganized home, skipping meals, and lacking time for personal interests. Elevated stress reduces daily functioning efficiency (Abdulghani, 2015). Additionally, stressful hospital environments are a common barrier to young doctors' well-being and ability to practice self-care (Hobi et al., 2022). These findings highlight the multifaceted impact of stress on junior doctors, emphasizing the importance of targeted interventions to address emotional, cognitive, physiological, and behavioral symptoms.

This study utilized a single-subject research design, which limits the generalizability of the findings to the broader population of houseman working in Malaysian government hospitals. Future studies could consider extending the duration of the intervention, as houseman frequently face workplace-related stressors. A longer intervention period could enhance the effectiveness of stress management strategies.

Additionally, healthcare facilities are encouraged to implement mentorship programs, which are highly recommended as a resource for coping with stress. Hospitals could also assign counselors to provide houseman with practical modules on managing stress effectively. Outreach initiatives focusing on the importance of mental health should be conducted to educate houseman on maintaining their well-being. These efforts could foster peer support, helping houseman navigate the challenges of their profession.

Moreover, to comprehensively examine systemic factors influencing stress levels and the effectiveness of interventions, it is essential to analyze organizational and institutional dynamics that contribute to the broader

context of stress among housemen. These factors include policies, support systems, and workload distribution, which significantly impact both the prevalence of stress and the outcomes of therapeutic efforts.

Institutional policies play a pivotal role in shaping the work environment and stress management strategies. For example, policies governing working hours, mandatory overtime, and on-call duties can either mitigate or exacerbate stress. A review of these policies should assess whether they align with international standards for physician well-being and include provisions for adequate rest, professional development, and mental health support. Policies encouraging regular performance evaluations and providing constructive feedback can also reduce stress related to job uncertainty or inadequacy.

The availability and accessibility of institutional support systems are critical to stress reduction. Support structures, such as mentorship programs, peer support groups, and counseling services, provide housemen with resources to navigate challenges effectively. Evaluating the adequacy of these systems involves assessing their utilization rates, satisfaction levels, and the extent to which they address specific stressors like workplace bullying, diagnostic uncertainty, or professional isolation. Instituting confidential platforms for grievance reporting and professional support can enhance perceived organizational fairness and trust.

Uneven workload distribution is a significant stressor in healthcare settings. Analyzing scheduling practices, task allocation, and departmental staffing levels can identify imbalances that lead to burnout. Interventions to optimize workload distribution might include rotating high-stress assignments more equitably, ensuring sufficient staffing during peak hours, and reducing non-clinical burdens such as excessive administrative tasks. Moreover, implementing systems to monitor and adjust workloads in real-time can help prevent housemen from being overwhelmed during crises or understaffed periods.

The quality of training programs and opportunities for skill development can influence stress levels. Institutions should evaluate whether housemen receive adequate supervision, guidance, and access to learning resources. Structured training in time management, communication, and resilience-building can empower housemen to handle stressors more effectively. Additionally, creating a culture that values continuous learning and provides clear pathways for professional growth can enhance job satisfaction and reduce stress.

Institutional culture, including hierarchical structures and interpersonal interactions, can impact stress. A culture that fosters collaboration, respect, and recognition of contributions can alleviate stress, while toxic or overly competitive environments can exacerbate it. Regular organizational climate surveys can help identify areas for improvement, enabling targeted interventions to create a supportive and inclusive workplace.

Continuous monitoring and evaluation of systemic factors are essential to ensure that interventions are effective. Institutions should implement feedback mechanisms to assess the impact of policies and support systems on stress levels. Regularly involving housemen in decision-making processes related to workload and organizational changes can increase their sense of agency and investment in the workplace. Through addressing these systemic factors, institutions can create a more supportive environment that not only reduces stress among housemen but also enhances the effectiveness of interventions like CBT. A holistic approach that integrates policy review, support system enhancement, workload optimization, and cultural transformation is crucial for sustained improvements in both individual and organizational well-being.

Furthermore, to effectively address long-term outcomes and assess the sustainability of the intervention's effects, extending the study period and proposing future research plans are crucial. A longitudinal follow-up approach can be adopted, involving periodic assessments at intervals such as three months, six months, and twelve months post-intervention. These follow-ups allow researchers to track changes in stress levels, coping strategies, and overall well-being over an extended period. Tools such as the Perceived Stress Scale, Depression Anxiety Stress Scale (DASS-21), and Quality of Life Scale (WHOQOL-BREF) can be administered at these intervals to evaluate the persistence of positive outcomes. Monitoring relapse rates is also essential to identify patterns of stress symptom recurrence and investigate contributing factors, such as adherence to learned techniques, workplace dynamics, or life events.

In addition to quantitative measures, qualitative feedback from participants during follow-up sessions can

provide valuable insights into their lived experiences and ongoing challenges. This feedback can be instrumental in refining the intervention to address any gaps or unmet needs. Future research should include comparative studies to evaluate the long-term effectiveness of Cognitive Behavioral Therapy against alternative stress-reduction methods, such as mindfulness-based stress reduction or resilience training. Expanding the participant pool to include diverse populations, such as medical professionals at different career stages or in various healthcare settings, can enhance the generalizability of findings. Furthermore, investigating the dose-response relationship by examining variations in intervention intensity, such as the number of sessions or session length, may provide a deeper understanding of optimal intervention parameters.

Long-term evaluation should also incorporate organizational metrics, such as job retention rates, absenteeism, and instances of workplace burnout, to measure systemic impacts. Tracking these metrics can help assess whether institutional support structures, like peer mentoring programs or accessible counseling services, contribute to sustained improvements. Predictors of sustainability, including baseline stress levels, participant engagement, and external support systems, should also be explored to identify factors influencing long-term outcomes.

Collaborations with healthcare administrators and policymakers can further enhance the intervention's impact by advocating for institutionalized support mechanisms, such as regular stress management training and robust mental health resources. By integrating these approaches, researchers can comprehensively evaluate the durability of intervention effects and inform the development of sustainable, evidence-based practices for stress management.

Evaluation Aspect	Metric	Outcome Indicator
Stress Reduction	Perceives Stress Scale score reduction	Lower scores indicate reduced perceived stress levels
Engagement	Attendance and homework completion	Completion indicate participant commitment
Therapist Adherence	Competency assessment scores	Scoring indicate effective therapist delivery.
Qualitative Themes	Narrative analysis	Positive shifts in themes of coping and self-efficacy.
Sustainability	Follow-up Perceived Stress Scale	Maintained improvement reflects long-term effectiveness

CONCLUSION

Future research should focus on identifying the factors that contribute to stress among houseman. Understanding these causes would allow for the more efficient application of counselling session and provide valuable insights into addressing the complexities of stress in this field. In conclusion, this study successfully addressed the objectives focusing on the level of stress and the symptoms experienced by the client. The Cognitive Behavioral Therapy proved to be practical, straightforward, and easy for the client to implement. It effectively replaced negative thoughts with more rational and positive thinking patterns.

The findings demonstrate that this technique is effective even within a short timeframe, highlighting its potential as a valuable tool in counseling to reduce stress symptoms and overall stress levels among houseman. This study underscores the significance of cognitive behavioral therapy in promoting mental well-being and stress management. To enhance healthcare services in Malaysia, it is hoped that this research will provide valuable insights to counselors, medical professionals, hospitals, and policymakers. By addressing houseman wellness, the study contributes to fostering a more supportive and effective healthcare environment.

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