Systematic Literature Review on Guidance and Counseling Using Cognitive Behavioral Therapy for Online Game Addiction

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Abstract: This study explores the use of Cognitive Behavior Therapy (CBT) in guidance and counseling services to address online game addiction. The researchers employed the SLR (systematic literature review) approach compiled using the PRISMA Method and scanned with Vosviewer software. The number of participants varied, with the largest number being 7129. Other numbers of participants included 2-20 subjects, 30-100 subjects, and two subjects with the least number of participants. The findings highlight that CBT, often combined with supplementary techniques, effectively reduces online game addiction by adapting strategies to individual needs. Family involvement plays a crucial role, serving as both a source of support and a potential contributing factor. Counselors frequently appoint a family member to assist in managing the counselee, and in severe cases, CBT is complemented by other therapeutic approaches or medications to address related psychological issues. Alternative therapies, such as Behavior Change Techniques (BCT), Behavior Change Strategies (BCS), and Acceptance Commitment Therapy (ACT), further enhance the treatment's efficacy. This study contributes to the field by emphasizing the adaptability and impact of CBT in addressing online game addiction while calling for future research on integrating CBT with other interventions and preventive measures across diverse cultural contexts.

INTRODUCTION

Technological advancements have significantly enhanced access to various digital applications, particularly online games, available on platforms such as the Play Store and App Store. Popular games like *Mobile Legends* (ML), *PlayerUnknown's Battlegrounds* (PUBG), and *Free Fire* (FF) attract millions of users globally due to their engaging gameplay, accessibility, and social interaction features (Fitri et al., 2018; Sari, 2010; Siste et al., 2022). These games are free to download and compatible with most devices, making them highly accessible. Features such as real-time multiplayer modes and in-game communication tools foster a sense of community among players, while live streaming and e-sports events elevate gaming to a cultural phenomenon and spectator sport (Muhamad & Priyambodo, 2022; Pratama, 2020; Rachman et al., 2024; Sari et al., 2010).

The global proliferation of internet users, which exceeded 4.5 billion in 2020, has contributed to the growth of the gaming industry. According to Data Reportal's *Global Digital Overview*, 20% of internet users aged 16 to 64 regularly

watch live-streamed games, and over 80% engage in gaming activities monthly. This has resulted in a global gamer population of 3.5 billion, with 69% playing on mobile devices, 41% on PCs or laptops, and 25% on consoles (Lete et al., 2022). In Indonesia, gaming adoption is notably high; as of January 2022, 94.5% of internet users aged 16 to 64 were video game players, placing Indonesia third globally in the number of video game enthusiasts (*We Are Social*, 2022).

While gaming offers entertainment and social interaction, it also raises concerns regarding addictive behaviors. Studies by the World Health Organization (WHO) in cities such as Manado, Medan, Pontianak, and Yogyakarta revealed that 45.3% of 3,264 students surveyed had played online games in the past month and showed tendencies indicative of addiction (Nurihsan, 2018; Kurniasih, 2022). In response to the lack of consensus on diagnostic criteria for gaming addiction, WHO proposed a framework for identifying gaming disorder, adapting elements from gambling addiction theories (Sarwono et al., 2015).

Gaming addiction is characterized by compulsive behavior, with individuals spending excessive time gaming, often at the expense of daily responsibilities and social interactions (Wong & Hodgins, 2014; Rahmawati et al., 2021; Fitri & Marjohan, 2016; Kuss, 2013). Symptoms include loss of self-control over gaming time, emotional instability when gaming is restricted, and failed attempts to reduce or cease gaming activities (Prayitno, 2017; Zulamri, 2019). Addicted individuals may spend an average of 20–25 hours per week gaming, and in extreme cases, as much as 39 hours weekly. This prolonged engagement can result in negative behavioral and cognitive outcomes, including selfishness and escapism, as players use gaming to cope with real-world challenges (Fitri et

al., 2018; Allender et al., 2014; Tohirin, 2008; Muhadi & Setiawan, 2017).

Given these concerns, there is a pressing need for effective interventions to mitigate gaming addiction. Guidance and counseling services utilizing the Cognitive Behavioral Therapy (CBT) approach have been proposed as a potential solution to reduce addictive tendencies and promote healthier gaming habits (Allender et al., 2014; Nurihsan, 2021; Tohirin, 2008; Muhadi & Setiawan, 2017). This study aims to investigate the effectiveness of such interventions in addressing gaming addiction among adolescents.

METHOD

The Systematic Literature Review (SLR) method systematically identifies, evaluates, and synthesizes evidence related to a research question, ensuring a structured, transparent, and replicable process. Unlike conventional literature reviews, which are often narrative and subjective, SLR employs predefined criteria for selecting and analyzing studies, enabling comprehensive and unbiased evidence synthesis (Kartika, 2020; Sutisna & Laiya, 2020; Sanjaya, 2013).

The SLR process consists of three stages: planning, conducting, and reporting. The planning stage involves defining research questions, setting inclusion and exclusion criteria, and identifying relevant databases and search strategies. The conducting stage focuses on implementing the strategy, including systematic searches, study selection, data extraction, and critical appraisal. Finally, the reporting stage synthesizes and documents the findings, ensuring clarity and replicability. This structured approach enhances the rigor and validity of the review, ensuring robust, reliable conclusions that contribute meaningfully to the existing body of knowledge.
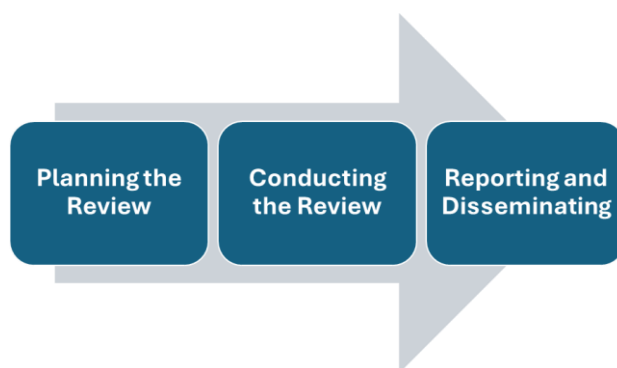
Figure 1. Systematic Literature Review Stages.

Figure 1 outlines the stages of the Systematic Literature Review (SLR) method, starting with the planning stage. This stage involves formulating the Research Questions (RQs), which guide the literature search, selection, and extraction processes, leading to data analysis and synthesis. The research questions posed in this study are: (1) Can Cognitive Behavioral Therapy (CBT) techniques be used to treat online gaming addiction? and (2) How does the implementation of CBT for reducing online gaming addiction compare to findings from local and international studies? The RQ formulation follows the PICO framework, which structures the search by defining Population (P), Intervention (I), Comparisons (C), and Outcome (O). Here, the population is online gaming addiction, and the intervention is CBT, while comparisons and outcomes are not explicitly addressed. Keywords such as "online game addiction," "Cognitive Behavioral Therapy (CBT)," and related phrases (e.g., "adiksi game online") were used in searches. This stage also includes setting research objectives, such as analyzing CBT's processes and stages—frequency, duration, and therapy activities—and assessing its effectiveness. Researchers also defined conceptual boundaries to determine whether CBT strategies and prior studies support its use in reducing online gaming addiction.

The second stage, conducting the review, focuses on applying inclusion criteria to define the scope and relevance of the studies. Searches were conducted in reputable databases, including Scopus, Publish or Perish (PoP), Connected Papers, and the Science and Technology Index (SINTA). The keywords "online game addiction" and "Cognitive Behavioral Therapy (CBT)" were employed, with a focus on studies published between 2017 and 2022, prioritizing open-access journals. Exclusion criteria were applied to refine the search, removing studies that were not in English or Indonesian, lacked online access, or did not use relevant keywords. The final validation ensured the included articles met all criteria, aligning with the research objectives and forming a robust basis for synthesis and reporting. This systematic process ensures transparency and consistency, strengthening the reliability of the study's findings.

Table 1. The Inclusion and Exclusion Criteria.

No	Inclusion Criteria	Exclusion Criteria
1	Researchers used journals for a maximum of five years, from 2017 to 2022.	Articles not written in English or Indonesian.
2	Journals related to the research issue, specifically guidance and counseling services that use CBT techniques.	When researchers search for data by entering keywords into a database, the data is returned briefly (not parent, no citation).
3	Scientific publications that use teenagers or high school students as the samples.	The research is not about guidance and counseling services that use CBT techniques to reduce online

No	Inclusion Criteria	Exclusion Criteria
		game addiction.
4	Scientific journals linked to Scopus, Connected Papers, PoP, and Sinta.	The study used a variety of samples, including teenagers still enrolled in high school.

The third stage, reporting and disseminating, focuses on developing the analysis and presenting the outcomes of the review. A critical step in this stage is independent data coding, which requires each researcher to assign unique codes or keywords to the studies reviewed. Following this, data coding validation is performed to ensure that the publications meet the established criteria. The PRISMA framework (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) serves as the foundation for this stage, enabling researchers to conduct systematic assessments and meta-analyses using PICO or similar methodologies. The data obtained during the SLR process are analyzed using quality assessment criteria to evaluate the credibility of the literature. The Quality Assessment (QA) includes several key questions: (1) Were the articles authored by students or general researchers and published in English or Indonesian? (2) Were the articles published between 2017 and 2022? (3) Do the articles discuss guidance and counseling services using Cognitive Behavioral Therapy (CBT) techniques to reduce online gaming addiction? (4) Do the articles involve teenagers aged 15 to 18 or in high school as the sample population? Each article is evaluated against these criteria, with "Yes" (Y) indicating that the study aligns with the requirements and "No" (N) indicating non-alignment. This structured approach ensures that the findings are credible, reliable, and relevant to the research objectives.

The researchers utilized the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) methodology to compile the systematic literature review (SLR) (Kartika, 2020; Prastyo et al., 2010; Tampubolon, 2019). The initial search identified 715 journals published between 2017 and 2022 through databases such as Scopus, Publish or Perish (PoP), Connected Papers, and SINTA. Using the first and second keywords, namely ("adiksi game online") OR ("game addiction") AND ("Cognitive Behavior Therapy"), the search yielded 209 articles.

The researchers then applied exclusion criteria to refine the results. Journals were excluded if they were closed access (10), related to medical studies (6), lacked peer review (9), did not include a control group (7), had objectives unrelated to the study (7), used different samples (8), were book chapters (5), were submitted papers (7), literature reviews (8), indexed journals only (6), or book reviews (8). This process reduced the number of articles to 133.

Further refinement included additional exclusion criteria, removing articles that were non-electronic (10), lacked citations (19), or lacked quantitative data (25). After this stage, 66 articles remained. Subsequent screening applied criteria for systematic reviews (14), meta-analyses (15), and abstracts (15), ultimately narrowing the selection to 17 articles. However, two articles were excluded due to their focus on internet media and television.

Following the final screening process, 20 journals were retained, comprising 10 international and 10 Indonesian journals. This process adhered to the PRISMA methodology, which provides a structured approach for evaluating systematic reviews and meta-analyses. The PRISMA technique ensures transparency and rigor in selecting and analyzing articles. The analytical process for the data preparation is summarized in the PRISMA flowchart below (Barricelli et al., 2019; Lusiana & Suryani, 2018; Syahrum, 2017).
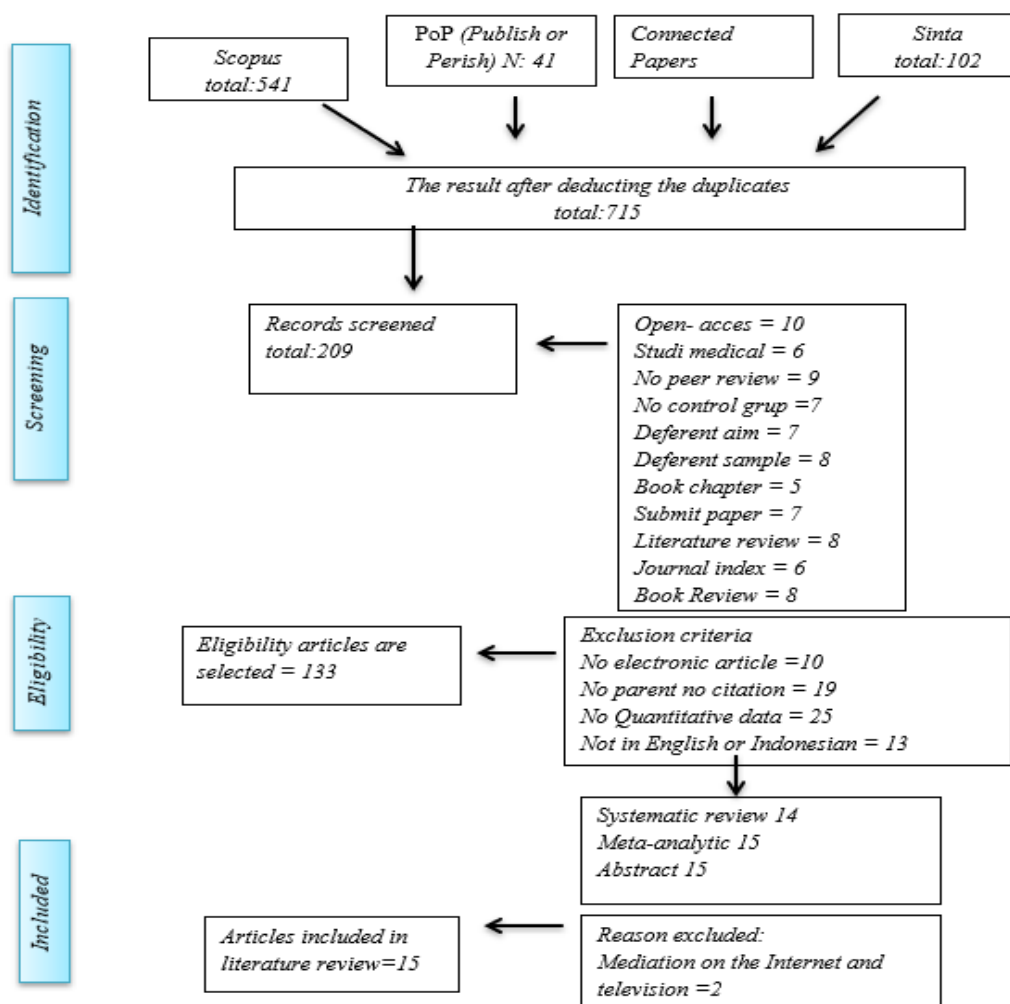
Figure 2. PRISMA Flow Diagram.

RESULT AND DISCUSSION

In this study, VOSviewer was utilized to analyze and visualize keyword co-occurrence networks from the selected articles. The generated map highlights the relationships between keywords such as "behavior," "cognitive deficit," "cognition," "addiction," "family," "diagnosis," "cognitive behavior therapy (CBT)," and others. These keywords were grouped into three distinct clusters, which were visualized in red, blue, and green. Each cluster represents thematic groupings based on the co-occurrence of terms within the reviewed studies.

The red cluster focuses on behavior and its associated factors, such as response, attention, and cognitive impairment. The blue cluster centers on family, diagnosis, and quality of care,

emphasizing the social and diagnostic aspects of behavioral studies. Meanwhile, the green cluster highlights interventions, such as CBT, and factors like session differences and therapeutic associations. The central position of these clusters indicates the interconnectedness of behavior-related research and the role of CBT in addressing behavioral and cognitive challenges.

VOSviewer also assists in identifying knowledge gaps by analyzing the density of connections among topics. For example, the findings suggest that research on CBT's effectiveness in addressing online gaming addiction remains underexplored in certain contexts, particularly regarding comparative studies and demographic-specific interventions. This visualization

not only helps in understanding the thematic focus of existing literature but also provides a foundation for future research directions.

By leveraging VOSviewer, researchers could systematically map the landscape of the reviewed literature, offering valuable insights into prevailing research trends and areas requiring further investigation. This approach enhances the rigor of the systematic literature review, ensuring that the findings are robust and grounded in a comprehensive analysis of the literature.
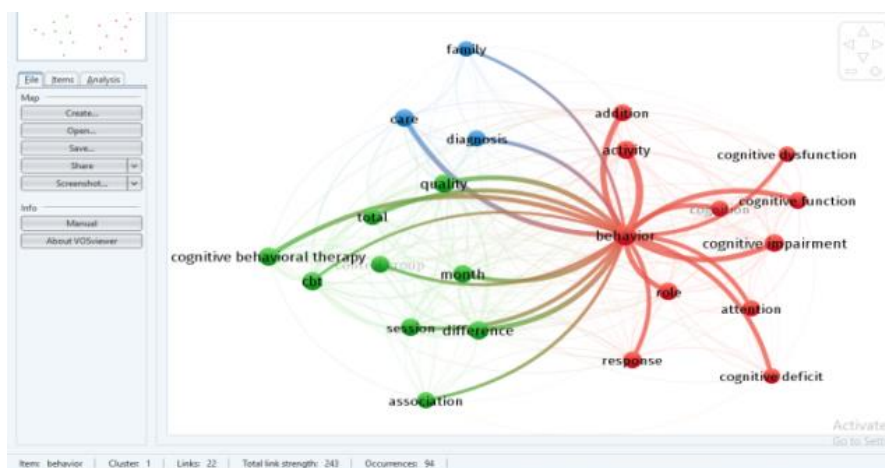

Figure 3. The Vosviewer Output.

The search process resulted in the selection of 20 articles, comprising 10 national and 10 international articles. These articles were carefully chosen based on a set of predefined criteria to ensure their relevance and quality for inclusion in the study. Table 2 outlines the specific criteria established by the researchers, which served as the basis for selecting these articles as research material.

Table 2. Classification Based on Relationship Analysis.

No	Researchers (Year and Title)	Main Discussion	Relationship Analysis
1	Sulistianingsih, Hara, and Permana. Individual Counseling (Cognitive Behavior Therapy) to Reduce Addiction to Mobile Legend Online Game (Sulistianingsih & Permana, 2022).	Discuss how internet gaming addiction forces students to learn, socialize, worship, and engage in other constructive activities. Guidance and Counseling teachers use cognitive behavioral therapy strategies to provide individual guidance and counseling.	To reduce online game addiction, 1. Using an online game addiction approach and using CBT techniques. 2. Applying time to the counseling process 3. Applying the steps in the CBT approach process to students
2	Elana Yuslaini siregear, Rodiatul Hasanah Siregar. The Application of Cognitive Behavior Therapy to Reduce the Duration of Playing Games in Individuals Who Experience Game Addiction.	Discussing the use of CBT to help those who are addicted to games reduce the amount of time they spend playing.	The parents are the driving factors for the successful application of behavioral therapy or CBT.
3	Fakhrii Hafizh Roffi Muhamad and Aji Bagus Priyambodo. Application of Cognitive Behavioral Therapy to Reduce	The researcher described how the group setting strategy helps to reduce online game addiction	Overcoming teenage online game addiction through group settings, which is a type of counseling service that uses

No	Researchers (Year and Title)	Main Discussion	Relationship Analysis
	Online Game Addiction in Adolescents (Muhamad & Priyambodo, 2022).	among adolescents. Researchers also want to know how helpful group settings are for cognitive remodeling.	groups to assist, provide feedback, and learning experiences.
4.	Pangestuti Kurniasih. Implementation of Behavior Counseling with Self-control Techniques to Overcome Students' Online Game Addiction at SMK Muhamdiyah Karanganyar, Pekalongan Regency (Kurniasih, 2022).	Discussing how to combat social media addiction using Cognitive Behavioral Therapy (CBT) and Self-Control Techniques	The researchers used six stages of the CBT counseling process to reduce online game addiction. In the implementation of CBT to overcome online game addiction, the counselor provides material about the negative effects of playing online games.
5	Dewi Narullita and Erni Yuniati. The Effect of Cognitive Behaviour Therapy (CBT) and Acceptance Commitment Therapy (ACT) to Reduceof Game Online Addiction in Adolescents, International Conference on Science, Technology, and Environment (Narullita & Yuniati, 2021).	Discussing how to solve the problem of online gaming addiction using not just cognitive behavioral therapy but also ACT	To reduce online game addiction in adolescents using therapy using psychological acceptance.
6	Heresia, Elizabeth Setiawati, Octa Reni Sudiadnyani, Ni Putu. The Relationship between Online Game Addiction and Learning Motivation among Junior High School Students in Bandar Lampung City in 2019.	Discussing the impact of adolescent internet game addiction on students' academic motivation.	The online game has a negative impact on student learning motivation, as well as neglected activities in the real world, such as forgetting to do assignments and declining academic achievement, changes in eating and rest patterns, waste of money, and disrupted health.
7	Fitriana Nia The Effect of Cognitive Behavior Therapy on Online Game Addiction in Adolescents at SMP Negeri 13 Padang	Discussing how cognitive behavior therapy affects adolescents' online game addiction	The researchers employ cognitive behavioral therapy (CBT) strategies to treat online gaming addiction.
8	Ichsan Yudha Pratama. The Application of Cognitive Behavior Therapy Approach to Overcome Addiction to Playing Online Games at SMA Negri 1 Kutacane in the Academic Year of 2020/2021(Pratama, 2020)	Discussing the therapy process utilizing CBT to reduce online game addiction, including numerous approaches from the CBT approach.	The researcher suggests several ways to reduce online game addiction, including encouraging group members to accept their current situation reflecting on their empathy, self-control, and determination to make changes.
9	Febriana Sartika Sari, Irna Kartina, Heni Nur Kusumawati, S. Dwi Sulisetyawati. Cognitive Behaviour Therapy Reduce Online Gaming Addiction in the Senior High School Students (Sari et al., 2010).	Discussing the effect of Cognitive Behavior Therapy on online game addiction using a quasi-experimental research design with pre and post-test one group without a control group.	Overcoming game addiction using CBT services. Some of the positive effects of CBT services include increased motivation to stop playing online games, management of repetitive behavior, and improved decision-making to engage in diversion activities.
10	Zees, Rini Fahriani; Ayu, Gusti; Putri, Putu; Usman, Lisdiyanti; Djamalu, Iramayanti.	This study investigates how beneficial cognitive behavior therapy is for	In this case, the counselor delivers CBT approach services, which include cognitive skill

No	Researchers (Year and Title)	Main Discussion	Relationship Analysis
	Effectiveness of Cognitive Behavior Therapy (CBT) on Gadget Dependence in Adolescents at Gorontalo Health Polytechnic (Allender et al., 2014).	students who are dependent on technological devices. Electronic devices can have an impact on teenagers' lifestyles, causing them to lack creativity, have learning issues, and struggle to complete schoolwork.	training, anger management, and additional components such as social skills, moral growth, and relapse prevention (Lipsey).
11	Kim, Sun Mi; Han, Doug Hyun; Lee, Young Sik; Renshaw, Perry F. Combined Cognitive Behavioral Therapy and Bupropion for the Treatment of Problematic On-Line Game Play in Adolescents with Major Depressive Disorder (Kim et al., 2012).	Discussing the effectiveness and efficacy of Cognitive Behavior Therapy (CBT) in combination with Bupropion for treating online gaming addiction in adolescents with comorbid major depressive disorder.	To treat online game addiction, a combination of bupropion and cognitive behavioral therapy (CBT) is employed.
12	YangWe njie; Hu Wenyan; Morita, N; Ogai, Yasukazu; Saito, Tamaki; Wei, Yan. Impact of Short-Term Intensive-Type Cognitive Behavioral Therapy Intervention on Internet Addiction Among Chinese College Students: A Randomized Controlled Trial	Discussing the effectiveness of a short-term intense Cognitive Behavioral Therapy (CBT) intervention in preventing internet addiction among Chinese university students	This study employs a short period to implement behavioral treatment or CBT, and the researchers want to know if it is truly beneficial.
13	Wölfling, Klaus; Müller, Kai W; Dreier, Michael; Ruckes, Christian; Deuster, Oliver; Batra, Anil; Mann, Karl; Musalek, Michael; Schuster, Andreas; Lemenager, Tagrid; Hanke, Sara; Beutel, Manfred E. Efficacy of Short-Term Treatment of Internet and Computer Game Addiction (Wölfling et al., 2019).	Discussing whether or not CBT, when administered in a short period, has an effect on easing the problem of computer game addiction (STICA)	To reduce computer game addiction (a person who plays online games on a computer), using short-term problem-solving.
14	Kristiana Siste, Enjelina Hanafi, Adrian, Lee Thung Sen, Peter Alison, Evania Beatrice. Online Dialectical Behavioral Therapy for Adults with Internet Addiction: A Quasi-Experimental Trial during the Covid-19 Pandemic (Siste et al., 2022).	Discussing the efficacy of online group Dialectical Behavior Therapy (DBT) for internet addiction (IA), compared to Cognitive Behavior Therapy (CBT) during COVID-19.	Comparison of the efficacy of behavioral therapy, specifically CBT and DBT therapies.
15	Taquet, Pierre; Romo, Lucia; Cottencin, Olivier; Ortiz, Dany; Hautekeete, Marc. Video Game Addiction: Cognitive, Emotional, and Behavioural Determinants for CBT Treatment (Taquet et al., 2017).	Discussing how to handle emotions, cognition, and addiction in somebody who is addicted to video games.	The researchers employ a variable frequency, with at least one meeting lasting 60 minutes and up to 90 minutes, held twice a week
16	Lee Jeong Hwa and; Son Chongnak The Effects of the Group Cognitive Behavioural Therapy	Discussing high school male students' gaming addiction tendencies, as well as investigating the	The objective of the study is to minimize online game addiction utilizing CBT techniques with males as the only participants.

No	Researchers (Year and Title)	Main Discussion	Relationship Analysis
	on Game Addiction Level, Depression, and Self-Control of the High Student with Internet Game Addiction (Son, 2008)	impact of cognitive-behavioral treatment on a group of high-risk students suffering from internet gaming addiction	
17	Hanan Hosni El Sherbini1 & Rasha Abd El Hakim Abdou. Effect of Cognitive Behavioral Therapy on Internet Gaming Disorder and Quality of Life Among Preparatory School Students in Alexandria El-Sherbini & Abdou, 2020.	Discussing the effect of Cognitive Behavioral Therapy (CBT) on internet gaming disorder and quality of life among students.	An effective CBT method is used to improve the student's quality of life while dealing with the problem.
18	Kneer, Julia; Rieger, Diana; Ivory, James D; Ferguson, Christopher. Awareness of Risk Factors for Digital Game Addiction: Interviewing Players and Counselors (Kuss, 2013).	Discussing the origins and goals of play provides early insights into how players and counselors perceive risk issues.	Researchers regard the social setting as the most essential factor in the development of problematic playing behavior when attempting to identify the problems or reasons for someone suffering from game addiction.
19	Sarwono, Caplan, Scott; Williams, Dmitri; Yee, Nick Problematic Internet Use and Psychosocial Well-being among MMO Players (Sarwono et al., 2015).	Discussing Problematic Internet Usage (PIU) among gamers.	In this study, researchers administered an online web-based survey that lasted approximately 25 minutes.
20	Simone N. Rodda, Natalia Booth, Michael Vacaru, Brenna Knaebe, David, dan Hodgins. Behavior Change Strategies for Internet, Pornography, and Gaming Addiction: A Taxonomy and Content Analysis of Professional and Consumer Websites. (Rodda et al., 2018)	Discussing change options for limiting or reducing IA (including internet gaming and pornography) through behavior change techniques or cognitive behavior therapy.	The strategy for overcoming online game addiction is to limit and diminish the use of internet games through a cognitive behavior therapy approach.

Table 2 provides a classification of articles discussing the application of Cognitive Behavioral Therapy (CBT) in addressing online game addiction, based on a relationship analysis of the studies (Kim et al., 2018; O'Donohue & Fisher, 2012; Taquet et al., 2017; Wong & Hodgins, 2014). These articles explore diverse implementations, outcomes, and implications of CBT, demonstrating its adaptability and effectiveness across various contexts.

Individual Counseling with CBT

Several studies underscore the effectiveness of CBT in individual counseling settings. For instance, Sulistianingsih and Permana (2022) highlight how guidance and counseling teachers used CBT techniques to assist students in recognizing the negative impacts of gaming addiction and improving their time management skills. The intervention involved core CBT processes such as identifying problematic behaviors, restructuring thought patterns, and strengthening self-control. These individualized strategies proved effective in reducing gaming addiction by addressing the unique challenges faced by each student (Firnanda & Wiyono, 2022; Lete et al., 2022; Prastyo et al., 2010). Such personalized interventions enable deeper engagement, as they focus on the

emotional and cognitive triggers specific to the individual.

Role of Family Support in CBT Success

Parental involvement is another crucial factor in successful CBT interventions. Research by Siregar et al. emphasizes how parents play a pivotal role in monitoring behavioral changes and providing emotional support, helping adolescents to reduce their gaming time. Parents act as enablers of behavioral modification, ensuring consistency in therapeutic efforts at home. This highlights the importance of integrating family-based strategies into CBT frameworks, creating a supportive environment that complements professional interventions (Elna Yuslaini Siregar & Rodiatul Hasanah Siregar, 2013).

Group-Based CBT Interventions

Group-based approaches have also demonstrated their efficacy in addressing gaming addiction. Muhamad and Priyambodo (2022) illustrate how group CBT sessions provided shared learning experiences and social support, which helped adolescents develop better self-control and reduce excessive gaming habits. These group settings facilitated open communication and collective problem-solving, offering a sense of community and accountability. The study underscores the potential of group CBT strategies in promoting sustainable behavioral change while fostering social skills among participants.

Combination of CBT with Other Techniques

The integration of CBT with complementary therapeutic techniques has been explored to enhance its impact. Kurniasih (2022) examined the combination of CBT with self-control strategies, where counselors provided education about the negative impacts of

online gaming and taught self-regulation techniques. This approach applied six systematic stages of CBT during counseling sessions, focusing on long-term behavior modification. Similarly, Narullita and Yuniati (2021) investigated the combination of CBT with Acceptance and Commitment Therapy (ACT). ACT emphasized psychological acceptance, enabling individuals to manage their gaming urges while focusing on meaningful activities. These combined approaches provide flexibility in addressing both behavioral and emotional dimensions of gaming addiction.

Medical and Technological Integration

International studies have expanded the scope of CBT by integrating medical and technological interventions. Kim et al. (2018) demonstrated the effectiveness of CBT combined with bupropion medication in treating adolescents with gaming addiction and comorbid major depressive disorder. This dual approach tackled both the psychological and physiological aspects of addiction, showcasing its potential for complex cases. Furthermore, research by Siste et al. (2022) highlighted the use of online CBT and Dialectical Behavioral Therapy (DBT) during the COVID-19 pandemic. Their findings revealed that remote therapy remained effective in reducing gaming and internet addiction, emphasizing the adaptability of CBT to virtual environments and technology-driven interventions.

Broader Implications and Factors Influencing CBT Effectiveness

The studies included in Table 2 collectively highlight the versatility of CBT in addressing online game addiction. Factors such as family involvement, group dynamics, and complementary techniques significantly enhance its effectiveness. Additionally,

the adaptability of CBT to remote or medical contexts further extends its utility. Research shows that CBT interventions not only help reduce gaming addiction but also equip individuals with essential life skills, such as time management, emotional regulation, and problem-solving, fostering healthier behavioral patterns (Rahmawati et al., 2021; Adriansyah et al., 2015; Fitri et al., 2018; Narullita & Yuniati, 2021).

Future Directions for Research

Despite its demonstrated efficacy, further research is needed to explore the long-term impact of CBT in preventing relapse and promoting sustainable behavioral change. Studies could also investigate the integration of emerging technologies, such as gamification or virtual reality, to enhance CBT engagement. Furthermore, examining the role of socio-cultural factors in shaping the effectiveness of CBT could provide valuable insights into its application in diverse populations (Kim et al., 2012; Pratama, 2020; Suwanto, 2020).

In conclusion, Table 2 underscores the flexibility and efficacy of CBT in treating online game addiction (Firnanda & Wiyono, 2022; Prastyo et al., 2010; Wölfling et al., 2019). Whether applied individually or in groups, combined with other therapies, or integrated into technological and medical settings, CBT offers a robust and adaptable framework for addressing behavioral addictions. These findings emphasize the importance of tailoring interventions to individual needs while leveraging supportive environments and innovative techniques to maximize outcomes (Sulistianingsih & Permana, 2022; Taquet et al., 2017; Wölfling et al., 2019).

CONCLUSION

This study highlights the effectiveness and adaptability of Cognitive Behavioral Therapy (CBT) as a key intervention for addressing online game addiction, particularly in guidance and counseling services. Using the SLR approach with the PRISMA method and VOSviewer software, the findings reveal that CBT effectively reduces gaming addiction, especially when tailored to individual needs and combined with supplementary techniques such as Acceptance Commitment Therapy (ACT), Behavior Change Techniques (BCT), and Behavior Change Strategies (BCS). Family involvement plays a crucial role, serving as both a source of support and a therapeutic component, with counselors often engaging family members to assist in managing behavior. In severe cases, CBT is complemented by medications or other therapies to address comorbid psychological conditions. Additionally, the study underscores the cultural adaptability of CBT, as evidenced by its integration with spiritual elements in Indonesia and its application in interdisciplinary international contexts. The potential role of digital detox strategies and emerging technologies, such as gamification or virtual reality, offers promising avenues to enhance CBT interventions. Future research should focus on cross-cultural comparisons, long-term efficacy, and preventive measures to expand CBT's impact as a robust and culturally responsive approach to managing online game addiction.

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