



Adaptation of Acceptance and Commitment Therapy for Methamphetamine Dependence in Pakistan: A Heuristic Framework

Mafia Shahzadi¹, Aqila Unbrin², Aftab Hussain³, Qasir Abbas⁴

¹ PhD Scholar, Department of Applied Psychology, Government College University Faisalabad, Pakistan

Email: mafia.mahak@yahoo.com

² Principal, Clinical Psychologist Punjab Institute of Mental Health Lahore, Pakistan

³ Assistant Professor, Riphah International University Islamabad, Pakistan

⁴ Assistant Professor, Department of Applied Psychology, Government College University Faisalabad, Pakistan

ARTICLE INFO

Article History:

Received: October 03, 2024

Revised: December 26, 2024

Accepted: December 27, 2024

Available Online: December 30, 2024

Keywords:

Methamphetamine

Acceptance and Commitment therapy

Adaptation

Heuristic Framework

Funding:

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

ABSTRACT

Substance use disorder is a challenge for the whole world, but currently many new types of drugs are being introduced to young adults. Methamphetamine use is an escalating concern in Pakistan especially among youth and other populations. To address this unique psychosocial challenge, the traditional treatment plans are often falling short, and hence there is a need to adopt new interventions which can give promising results like Acceptance and Commitment Therapy (ACT). Its focus on value-based living and psychological flexibility offers a promising alternative. Hence, there was a need to culturally adapt ACT to be effective in the sociocultural context of Pakistan. The heuristic framework was employed to adapt a Motivational Interviewing/Acceptance and Commitment Therapy (MI/ACT) transdiagnostic manual for substance use and co-occurring mental health problems (Thurstone, Timmerman & Metzler, 2018) for methamphetamine dependence in Pakistan, integrating evidence-based strategies with contextual relevance. This framework helped in the adaptation of the ACT manual by addressing linguistic translation, cultural sensitivities, family involvement, stigma, and systemic barriers while preserving the theoretical integrity of ACT.



© 2024 The Authors, Published by iRASD. This is an Open Access article under the Creative Commons Attribution Non-Commercial 4.0

Corresponding Author's Email: mafia.mahak@yahoo.com

1. Introduction

Substance use disorders are major health concerns globally that are accountable for increased disease burdens worldwide. It is causing an increase in the risk of suicide, injuries, and serious health issues like cancer (Tran et al., 2022). The main characteristic of substance use disorder is compulsive engagement in behaviors related to substance abuse despite harmful consequences. Initially, abusers are attracted to the pleasure of the substance abuse and gradually get addicted to it. Some of them get involved in substance abuse to escape from physical and psychological pain (González-Menéndez et al., 2014).

There are new drugs being introduced in the market day by day, and young individuals are the victims of it. In the past, opioid use was trending among young individuals worldwide, but now methamphetamine is prevailing among youngsters. Methamphetamine is commonly known as ice, a strong stimulant that affects the central nervous system by producing strong euphoria which increases energy and improves focus. Many young individuals use this to enhance their focus during exam preparation. However, the consistent and chronic use of methamphetamine leads to methamphetamine use

disorder (MUD), which is a condition in which a person compulsively uses methamphetamine in spite of harmful outcomes (Courtney & Ray, 2014).

Methamphetamine use disorder comes under the broad category of stimulant use disorder and is characterized by the problematic use of methamphetamine that leads to distress or significant impairment. Furthermore, this disorder is elaborated as episodes of tolerance, withdrawal, failed attempts to cut down the use, and continued use in spite of physical and interpersonal problems (Association, 2013). According to United Nations Office on Drugs and Crime (2022, June 28), the popularity of methamphetamine use has significantly increased globally, particularly in Asia, Australia, and North America, due to its affordability and availability. Furthermore, the dependence on methamphetamine is linked with psychosis, cognitive impairments, risk of infectious diseases, and aggression (Darke et al., 2008).

Many behavioral therapies are found significant in treating substance use disorders, especially cognitive-behavioral therapy, motivational interviewing and contingency management, but now third-wave behavior therapies like acceptance and commitment therapy provide treatment of cognitive, behavioral and emotional processes involved in addictive behaviors by examining how context affects psychological phenomena and behaviors (Harris, 2019).

2. Literature Review

There are many interventions that have been used in treating addictive behaviors and associated psychological problems, but the outcomes of these approaches in terms of long-term abstinence rates and treatment completion recommend that there is substantial room for improvement (Ray et al., 2020). For instance, contingency management is an effective intervention which is widely used for addictive behaviors in rehabilitation centres (Ainscough et al., 2021) and shows reduced usefulness over time because the reinforcements are withheld at the end of treatment and external reinforcement is no longer leading to intrinsic motivation (Benishek et al., 2014). There are alternative approaches of third-wave behavior therapies such as acceptance and commitment therapy (ACT) which are process-based and provide treatment of psychological, emotional and behavioral challenges associated with addiction (Harris, 2019).

Acceptance and commitment therapy is widely researched and the most representative third-wave therapy due to its experimental and philosophical foundation (Törneke et al., 2015). In accordance with Hayes, Pistorello and Levin (2012), ACT is a transdiagnostic intervention that works for enhancing psychological flexibility rather than altering cognitive, behavioral, and emotional contents. It helps individuals to develop psychological flexibility by reducing the dominance of cognitive, behavioral, and emotional contents. ACT helps individuals to change or maintain behavior in terms of chosen values that genuinely matter to them (Hayes, Pistorello, & Levin, 2012). The therapy aims to address the core process of psychological flexibility by using things like paradoxes, metaphors, and experiential exercises (Hayes, Pistorello, & Levin, 2012).

Furthermore, it helps individuals to adapt needs and desires in a more balanced way because behaving consistently with one's values is a way of distinguishing the distress accompanying withdrawal symptoms caused by the consequences, craving and distress of the addiction (DuFrene & Wilson, 2012). There are many studies that have concluded that ACT has a significant impact on the treatment outcome for the individuals with SUDs. One study found that ACT shows significant positive outcomes with alcohol use disorder as compared to the control group and other active interventions (Byrne et al., 2019). Furthermore, a study found that ACT has better outcomes when dealing with symptomatology or SUDs and comorbid disorders (Maia et al., 2021). ACT is more impactful because it helps in increasing flexibility and acceptance in a more effective way than active and inactive groups (Díez-Bejarano & Chaves, 2022).

ACT is being effectively used worldwide, but it needs to adapt to the cultural context for productive efficacy because without adaptation, it might have limited treatment outcomes. Cultural values play a vital role in shaping individuals' distress, experiences,

coping mechanisms, and engagement in therapies (Bernal, Jiménez-Chafey, & Domenech Rodríguez, 2009). Adapting any psychological intervention to the relevant cultural contexts is significant to enhance relevance, efficacy and acceptance (Castro, Barrera, & Martinez, 2004).

Like other countries, Pakistan also faces a number of mental health issues. Mirza and Jenkins (2004) reported around 10–35% of the population of Pakistan is suffering from psychological distress. A significant number of young individuals are suffering from substance use disorder, especially methamphetamine use is at the top of the list (United Nations Office on Drugs and Crime, 2022, June 28). Against this background, the Pakistani population needs effective intervention like ACT in accordance with cultural context to get better treatment outcomes. This study aims to adapt ACT with methamphetamine dependence in the Pakistani cultural context.

3. Method

This study employed a heuristic framework for the adaptation of the Acceptance and Commitment Therapy with Methamphetamine Dependence Manual (Citation) in the Pakistani cultural context. This framework has four distinct stages, and each stage has its own sample, tools, procedure, analyses and results.

3.1 Research Design

The current study used a heuristic framework by Moustakas (1990) to understand and develop a culturally adapted ACT protocol for individuals with methamphetamine dependence in Pakistan. This framework was used due to its flexibility to incorporate researcher experience with the primary data in the collaborative process of knowledge. This design highlights primary data, involvement and creative synthesis that is significant when working to formulate a culturally productive therapeutic framework.

3.2 Philosophical Underpinnings

The current study was based on phenomenological philosophy and constructivist epistemology, supporting the main principles of ACT, which pays particular attention to psychological flexibility and mindful awareness. Moreover, the heuristic framework recognizes the experience of researchers and their active role in understanding and interpreting phenomena, especially culturally appropriate nuanced adaptation procedures.

3.3 Sampling

A purposive sampling strategy was used to approach mental health professionals familiar with ACT from drug rehabilitation centers and individuals who have lived experiences of methamphetamine use from drug rehabilitation centers in Lahore.

3.4 Inclusion Criteria

The mental health professionals familiar with ACT and with at least one year of relevant experience are included in the study. The young adults from 15 to 30 years of age with a history of methamphetamine dependence meeting the criteria of DSM-V are included in the study. The individuals who are willing to participate in the study are included in the study.

3.5 Sample size

The sample was the adaptation committee, and this committee was comprised of eight members, including mental health practitioners, individuals in recovery from methamphetamine dependence and language expert researchers. The sample included psychologists (n=3), language experts (n=2) and individuals in recovery from methamphetamine dependence (n=3). The sample size was appropriate for the heuristic framework (Guest, Bunce, & Johnson, 2006).

3.6 Instruments: Semi-structured interview

A semi-structured interview was scheduled to get qualitative information from the sample. The interview was designed by using open-ended questions to get maximum information. The questions included ACT processes and relevant information, cultural and religious dimensions, experience with methamphetamine use, and suggestions to get maximum engagement in the therapeutic sessions.

A Motivational Interviewing/Acceptance and Commitment Therapy (MI/ACT) transdiagnostic manual for substance use and co-occurring mental health problems (Thurstone C, 2018). This manual is designed to deal with substance use and related psychological problems, and it's a combination of motivational interviewing and ACT. The motivational interview helps clients to motivate themselves to get in therapy and stay committed to the therapeutic process so that they can show compliance throughout treatment. Furthermore, this transdiagnostic process addresses various common challenges faced by individuals with substance use disorder. This makes it more appropriate for clinical settings because it does not focus on eliminating symptoms but on motivating, developing flexibility, mindful awareness, and value-driven actions. Therefore, this manual is appropriate for the Pakistani cultural context.

3.7 Procedure

In the first stage, the relevant data was gathered to gain knowledge and understanding of the context and requirements of the psychological treatment in the county. A thorough and in-depth review of literature revealed that acceptance and commitment therapy has promising outcomes for the treatment of substance use disorder. There are discrepancies and cultural variances in the protocol, and hence the need for the cultural adaptation of this protocol is justified. Before starting the procedure, the whole process of adaptation was thoroughly discussed by this committee in more than one meeting. Initially, relevant material was collected through a literature review of research articles, books, and online information to gain understanding of the challenges of the target population in cultural contexts.

Then the therapy protocol was given to all the members of the committee to review, and they were given a time of one month. After a given time, a first meeting was conducted in which they discussed the need for modification for the target population. Their detailed feedback was noted to make understanding main concepts, cultural relevance, language use, and associated materials like worksheets and questionnaires. The committee made decisions after reviewing all the feedback and comments that that translation and adaptation can be more beneficial for the individuals with substance use disorder. Then semi-structured interviews were conducted with the individuals with methamphetamine dependence.

3.8 Data Analysis

All the information was analyzed by using the heuristic framework of Moustakas (1990). This was a systematic process and began with initial engagement of adapting ACT protocol, then getting familiar with participant data, incubation, illumination, explication and creative synthesis. The data was managed by using NVivo software, and then the data were reviewed numerous times to get culturally significant insights.

3.9 Ethical Considerations

The permission from the author of the manual was used for cultural adaptation. All the participants were provided informed consent. Permissions were taken from the mental health professionals, and their willingness to participate was asked, and time was scheduled for meeting mutually. Anonymity was maintained while exploring the lived experiences of the participants with methamphetamine dependence. All the participants were ensured their right of withdrawal from the participation.

4. Results

The thorough analysis showed four primary themes fundamental to the cultural adaptation of acceptance and commitment therapy began with the motivational interview transdiagnostic manual for substance use and co-occurring problems for methamphetamine dependence among young adults in Pakistan. The first themes are (1) Spiritual Resonance with ACT Processes, (2) Barriers to Acceptance and Defusion, (3) Contextualized Values Exploration, and (4) Relational and Familial Dynamics in Recovery. All four themes are presented with descriptive participants, and subsequently a synthesis model.

Table 1: Discrepancy between the original protocol and the characteristics of the target population, and preliminary adaptation of the protocol

Discrepancies	Description	Preliminary Adaptation
Translation of English expressions	There are some English expressions in the manual which cannot just be translated directly, such as "values", "creative hopelessness", and "defusion".	All the terms are translated into the indigenous language so that the user can easily understand the meaning.
Understanding of core concepts	Difficulty in understanding basic concepts due to insufficient educational level can affect the outcome of therapeutic intervention.	Rephrased language into culturally appropriate urdu language
Cultural applicable examples	There were lack of culturally applicable examples	The cultural appropriate examples were replaced
Visual aids	There were a lot of worksheets to help clients and therapist for smooth sessions	The terminologies on work sheets were also changed to the indigenous

Theme 1: Spiritual Resonance with ACT Processes

Participants repeatedly mentioned how religious and spiritual actions describe the ACT practice of acceptance, value-driven actions and mindfulness. For example, "I practice mindfulness when I do *tasbeeh* or I offer prayer; it makes me feel like I am watching my thoughts, and without interruption, I am letting them go" (participant 2, male, 16 years). "Whenever we give up controlling a situation and let it happen is an example of *tawakkul* (faith in God)" (Therapist 1, female). The therapists added that acceptance of religious concepts, for instance, *tawakkul* (faith in God) and *sabar* (patience), enhanced engagement as well as decreased resistance.

Theme 2: Barriers to Acceptance and Defusion

Many individuals who struggle in the recovery phase go through painful emotions and disgraceful memories due to religious guilt and internalized shame. "I often think I'm *najis* (impure). I found it difficult to accept myself after this (Participant 3, male, 24). There was a need to contextually modify particularly metaphors and cognitive defusion techniques. The metaphor "leaves on a stream" was not well understood in cultural context, and then it was linked with clouds passing over the sky and translated well to make it more culturally appropriate. The therapists described that exercising defusion needed to be in everyday idioms for effectiveness and should be visual and tactile for a better outcome.

Theme 3: Contextualized Values Exploration

Identification of the values was transformative for participants, specifically when they were explored in the context of spirituality, family and community service.

"I don't want money and fame; I just wish to be with my mother and be her pride again" (Participant 2, male, 16). The therapists incorporated family scripts, community figures, and moral stories to anchor values examination in the cultural setting of Pakistan.

Theme 4: Relational and Familial Dynamics in Recovery

Participants underscored the dual role of family in recovery both as a source of motivation and as a trigger for distress. "I relapsed because my father called me a disgrace. But I also stayed clean because I wanted to make him proud." (Participant 4, male) 2 ACT's emphasis on self-as-context helped participants disentangle their identity from family judgements. Therapists also noted that involving families in sessions fostered a shared understanding of value-driven recovery.

Creative Synthesis: The "Aaina-e-Nafs" Model of ACT Adaptation

By accumulating all the themes in a culturally grounded, it was termed the "Aaina-e-Nafs Model" (mirror of the self) (reflecting self-awareness). All these themes serve as a pathway to comprehend values and to embrace them gracefully. Each theme of the Aaina-e-Nafs represents a key factor of adapted ACT: *Sabar* means acceptance, *tawakkul* (defusion and self-as-context), *ahmiyat* (values and dignity) and *talukat* (relational healing). The conscious living (*Ba'shaor Zindagi*) signifying psychological flexibility in the context of Pakistan.

The adapted ACT model for methamphetamine users in Pakistan must integrate local language, spiritual teachings, visual metaphors, and familial contexts. ACT's processes resonated with participants when translated through a culturally attuned lens. The resulting framework preserves ACT's theoretical integrity while enhancing cultural congruence.

5. Discussion

The main objective of the current study was to develop a culturally appropriate model of acceptance and commitment therapy for individuals with methamphetamine dependence in Pakistan. For this, a heuristic model was employed. The initial assessment revealed that the therapy manual is practically and theoretically adaptable, especially in Pakistani perspectives like religious and social culture. The existing literature endorsed the interpretation of the results and clinical implications, addressed limitations, and guided future studies.

The findings of the study support various studies claiming that ACT is flexible for various cultures and is relevant in treating substance use disorders (Luoma et al., 2013). The present study contributed to the illustration of the efficacy of ACT in collectivist values and culturally embedded Islamic concepts prevalent in Pakistan. Moreover, there is a strong need to consider the use of language in the intervention, and word-for-word literal translation does not work; hence, language needed to be adapted in cultural context with relevant examples.

The constructs of ACT were interpreted by the participants of the study through spiritual and religious frames, for example defusion and acceptance. In the Islamic concept patience (*sabar*) and trust in divine will (*tawakkul*) are frequently combined with psychological flexibility and acceptance. The Muslim population with substance use disorder often facilitated spiritual acceptance in recovery while dealing with addiction (Rahimi & Abedini, 2018). In the faith-orientated societies, ACT can be more relatable if recontextualizing ACT in a spiritually and culturally meaningful way.

The present study contextualized values by keeping the core concepts of indigenous culture in mind like community (*biradari*), dignity (*izzat-nafs*) and familial honor. Hence, the values explanation developed as a transformative component, particularly when situated within the extensive cultural constructs. A past study suggested that identity reconstruction is complicated in the recovery process in addiction (Best et al., 2016). The present study focused on collectivist individualistic. The goals of the participants were not merely personal achievement but centred on spiritual re-alignment and family restoration.

Regardless of the theoretical resonance of ACT ideologies, a few participants found it difficult with acceptance as well as with defusion because of embedded shame, guilt, and cognitive inflexibility. These hindrances were aggravated by strong religious interpretations,

such as viewing substance use as an irredeemable sin, and that is a trigger for substance use disorder in other Islamic-majority countries (Khan, 2020). The people often describe past events as fate or destiny (kismet), God's will or the evil eye, and their coping strategies move around belief in fate (Bhugra, 1999).

6. Conclusion

The study aimed to adapt An MI/ACT Trans-Diagnostic Manual for Substance Use and Co-occurring Problems for the individuals with methamphetamine dependence in Pakistani culture. For this purpose, the study employed a heuristic framework for cultural adaptation with a series of steps. The whole process was involved with theoretical, philosophical, cultural, and religious considerations for developing indigenous intervention for the needs of the indigenous population. ACT is found to be a significant intervention for the treatment of substance use disorder, and hence cultural adaptation was done to provide useful intervention in the local language.

The present study has some limitations; the participant sample appears to under-represent female and middle-aged and older adults. Due to cultural stigma, females with substance use disorders were not willing to participate in the study. The study did not follow participants for a long time and could not assess the outcomes of ACT over time.

7. Policy Recommendations

The national mental health authorities and Ministry of Narcotics Control should officially recognize culturally adapted interventions ACT in clinical protocols for substance use treatment. The practice of using such culturally adapted intervention of ACT to determine sensitivity while engaging with family dynamics and religious metaphors. There should be support for the community treatment Centres so that they can offer community-embedded, low-cost treatment to the people with substance use disorder.

In the future studies, the families and care should participate in identifying their role in recovery. Moreover, spiritual counsellors and faith leaders might help in developing culturally accepted language around addiction recovery, psychological flexibility and stigma reduction.

References

- Ainscough, T. S., Brose, L. S., Strang, J., & McNeill, A. (2021). Contingency management for tobacco smoking during opioid addiction treatment: Implementation challenges. *Drug and Alcohol Review*, 40(4), 658-661. <https://doi.org/10.1111/dar.13216>
- Association, A. P. (2013). *Diagnostic and Statistical Manual of Mental Disorders* (Fifth Edition ed.). American Psychiatric Association.
- Benishek, L. A., Dugosh, K. L., Kirby, K. C., Matejkowski, J., Clements, N. T., Seymour, B. L., & Festinger, D. S. (2014). Prize-based contingency management for the treatment of substance abusers: a meta-analysis: Prize-based contingency management meta-analysis. *Addiction*, 109(9), 1426-1436. <https://doi.org/10.1111/add.12589>
- Bernal, G., Jiménez-Chafey, M. I., & Domenech Rodríguez, M. M. (2009). Cultural adaptation of treatments: A resource for considering culture in evidence-based practice. *Professional Psychology: Research and Practice*, 40(4), 361-368. <https://doi.org/10.1037/a0016401>
- Best, D., Beckwith, M., Haslam, C., Alexander Haslam, S., Jetten, J., Mawson, E., & Lubman, D. I. (2016). Overcoming alcohol and other drug addiction as a process of social identity transition: the social identity model of recovery (SIMOR). *Addiction Research & Theory*, 24(2), 111-123. <https://doi.org/10.3109/16066359.2015.1075980>
- Bhugra, K. B., Rosemarie M, Dinesh. (1999). Cultural identity and its measurement: a questionnaire for Asians. *International Review of Psychiatry*, 11(2-3), 244-249. <https://doi.org/10.1080/09540269974438>
- Byrne, S. P., Haber, P., Baillie, A., Costa, D. S. J., Fogliati, V., & Morley, K. (2019). Systematic Reviews of Mindfulness and Acceptance and Commitment Therapy for

- Alcohol Use Disorder: Should we be using Third Wave Therapies? *Alcohol and Alcoholism*, 54(2), 159-166. <https://doi.org/10.1093/alcalc/agy089>
- Castro, F. G., Barrera, J., Manuel, & Martinez, J., Charles R. (2004). The Cultural Adaptation of Prevention Interventions: Resolving Tensions Between Fidelity and Fit. *Prevention Science*, 5(1), 41-45. <https://doi.org/10.1023/B:PREV.0000013980.12412.cd>
- Courtney, K. E., & Ray, L. A. (2014). Methamphetamine: An update on epidemiology, pharmacology, clinical phenomenology, and treatment literature. *Drug and Alcohol Dependence*, 143, 11-21. <https://doi.org/10.1016/j.drugalcdep.2014.08.003>
- Darke, S., Kaye, S., McKETIN, R., & Duflou, J. (2008). Major physical and psychological harms of methamphetamine use. *Drug and Alcohol Review*, 27(3), 253-262. <https://doi.org/10.1080/09595230801923702>
- DuFrene, T., & Wilson, K. (2012). *The wisdom to know the difference: An acceptance and commitment therapy workbook for overcoming substance abuse*. New Harbinger Publications.
- González-Menéndez, A., Fernández, P., Rodríguez, F., & Villagrà, P. (2014). Long-term outcomes of Acceptance and Commitment Therapy in drug-dependent female inmates: A randomized controlled trial. *International Journal of Clinical and Health Psychology*, 14(1), 18-27. [https://doi.org/10.1016/S1697-2600\(14\)70033-X](https://doi.org/10.1016/S1697-2600(14)70033-X)
- Guest, G., Bunce, A., & Johnson, L. (2006). How Many Interviews Are Enough?: An Experiment with Data Saturation and Variability. *Field Methods*, 18(1), 59-82. <https://doi.org/10.1177/1525822X05279903>
- Harris, R. (2019). *ACT made simple: An easy-to-read primer on acceptance and commitment therapy*. New Harbinger Publications.
- Hayes, S. C., Pistorello, J., & Levin, M. E. (2012). Acceptance and Commitment Therapy as a Unified Model of Behavior Change. *The Counseling Psychologist*, 40(7), 976-1002. <https://doi.org/10.1177/0011000012460836>
- Khan, R., & Alam, F. . (2020). Religion and mental health: Challenges and opportunities in Islamic contexts. *Journal of Muslim Mental Health*, 14(1), 1-13.
- Luoma, J. B., Nobles, R. H., Drake, C. E., Hayes, S. C., O'Hair, A., Fletcher, L., & Kohlenberg, B. S. (2013). Self-stigma in substance abuse: Development of a new measure. *Journal of psychopathology and behavioral assessment*, 35, 223-234.
- Maia, M. F. C., Santos, B. F. D., Castro, L. C. D., Vieira, N. S. T., & Silveira, P. S. D. (2021). Acceptance and Commitment Therapy and Drug Use: A Systematic Review. *Paidéia (Ribeirão Preto)*, 31, e3136. <https://doi.org/10.1590/1982-4327e3136>
- Mirza, I., & Jenkins, R. (2004). Risk factors, prevalence, and treatment of anxiety and depressive disorders in Pakistan: systematic review. *BMJ*, 328(7443), 794. <https://doi.org/10.1136/bmj.328.7443.794>
- Moustakas, C. (1990). *Heuristic research : design, methodology, and applications*. SAGE Publications, Inc.
- Ray, L. A., Meredith, L. R., Kiluk, B. D., Walthers, J., Carroll, K. M., & Magill, M. (2020). Combined Pharmacotherapy and Cognitive Behavioral Therapy for Adults With Alcohol or Substance Use Disorders: A Systematic Review and Meta-analysis. *JAMA Network Open*, 3(6), e208279. <https://doi.org/10.1001/jamanetworkopen.2020.8279>
- Thurstone C, T. J., Metzler B. (2018). *impACT: MI/ACT for Adolescents with Substance Use and Co occurring problems*. www.DrThurstone.com
- Törneke, N., Luciano, C., Barnes-Holmes, Y., & Bond, F. W. (2015). RFT for Clinical Practice: Three Core Strategies in Understanding and Treating Human Suffering. In R. D. Zettle, S. C. Hayes, D. Barnes-Holmes, & A. Biglan (Eds.), *The Wiley Handbook of Contextual Behavioral Science* (1 ed., pp. 254-272). Wiley.
- Tran, K. B., Lang, J. J., Compton, K., Xu, R., Acheson, A. R., Henrikson, H. J., Kocarnik, J. M., Penberthy, L., Aali, A., & Abbas, Q. (2022). The global burden of cancer attributable to risk factors, 2010–19: a systematic analysis for the Global Burden of Disease Study 2019. *The Lancet*, 400(10352), 563-591.
- United Nations Office on Drugs and Crime, U. (2022, June 28). National Drug Use Survey Pakistan 2022-24 launched. <https://www.unodc.org/pakistan/en/stories/national-drug-use-survey-pakistan-2022-24--launched.html>