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RESEARCH ARTICLE

The silent footsteps of danger: A qualitative study of methamphetamine use disorder

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ABSTRACT

Methamphetamine use disorder represents a growing global health concern, particularly affecting adolescents and young adults. Beyond its well-established neurotoxic effects, the substance imposes severe psychosocial consequences on individuals, families, and broader communities. This study aimed to provide a multidimensional understanding of methamphetamine dependence by combining psychiatric expertise with the lived experiences of an affected family. A qualitative design was employed, drawing on semi-structured interviews with 21 psychiatrists working in adult psychiatry departments and with members of a family directly impacted by methamphetamine addiction. Thematic analysis identified four overarching domains: (1) perceived trends in use, (2) psychiatric manifestations and diagnostic challenges, (3) social and environmental determinants, and (4) approaches to treatment and prevention. Findings demonstrated a marked increase in methamphetamine use among adolescents and young adults, with both clinicians and family members emphasizing the rapid transition from experimentation to dependence. Prominent psychiatric outcomes observed in methamphetamine dependence included intense paranoia, vivid hallucinations, episodes of aggression, and long-lasting cognitive deficits. These symptoms frequently made it challenging for clinicians to distinguish substance-induced states from primary psychotic illnesses. Beyond clinical manifestations, contextual influences played a critical role. Economic hardship, strained family relationships, parental mental health problems, and broader global uncertainties were repeatedly described as factors that heightened vulnerability. Excessive engagement with digital platforms and the anxiety provoked by constant exposure to social media further intensified these risks, while stigma and cultural silence often postponed both recognition of the problem and access to care. Importantly, the findings suggest that successful responses cannot rely on medication alone. The establishment of trusting therapeutic relationships, the introduction of preventive education during adolescence, the development of coping and problem-solving skills, and coordinated work across medical, psychological, and social domains emerged as vital elements of effective care. Taken together, these insights point to the need to approach Methamphetamine use disorder not only as a neuropsychiatric condition but also as a broader social phenomenon, one that demands integrated strategies spanning clinical practice, family systems, and community support structures.

Keywords: adolescents and young adults; childhood; psychiatric manifestations; social determinants of health; family dynamics; public mental health

1. Introduction

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Methamphetamine is a powerful psychostimulant that poses a growing threat to global public health because of its highly addictive nature, profound neurotoxic impact, and wide-ranging social consequences. Although it was initially developed for medical use, the substance is now commonly misused, particularly in its crystalline and pill forms—popularly referred to as "ice," "crystal," or simply "meth." Its rapid and intense stimulation of the central nervous system produces strong reinforcement, which often escalates into compulsive consumption, tolerance, and dependence[1]. In addition to the well-established psychiatric outcomes, including paranoia, hallucinations, and cognitive impairment, methamphetamine dependence has far-reaching repercussions for families, communities, and health systems[2].

Epidemiological data further suggest that consumption is rising steadily among adolescents and young adults across both developed and developing contexts[3]. This trend appears to be driven not only by individual-level vulnerabilities, such as pre-existing anxiety or depressive symptoms, but also by broader socio-economic and environmental pressures.Factors including unemployment, future uncertainty, and exposure to large-scale crises (economic recessions, geopolitical instability, climate-related disasters) have been identified as significant drivers of substance use among young populations[4,5]. In parallel, the psychosocial disruptions caused by the COVID-19 pandemic have exacerbated risks by fostering digital overexposure, social isolation, and increased reliance on online platforms[6]. Emerging evidence also suggests a bidirectional link between social media addiction and substance dependence, highlighting the interplay of behavioral and chemical forms of addiction within the same vulnerable groups[7].

From a social psychology perspective, Methamphetamine use disorder cannot be understood solely as an individual pathology but must be contextualized within its relational and environmental settings. Families often bear the burden of addiction, facing not only emotional strain but also increased risk of psychiatric comorbidities such as depression and anxiety among close relatives[8]. Stigma surrounding drug use often prevents individuals and their families from seeking help at an early stage, thereby delaying timely access to healthcare services. In this context, qualitative research that incorporates the perspectives of both clinicians and families becomes particularly valuable, as it sheds light on the lived experiences of addiction and reveals the human dimensions of suffering and resilience that numerical data alone cannot capture[9,10].

Despite the growing body of quantitative and epidemiological research on methamphetamine use[3,4], limited qualitative work has explored how substance use disorder is experienced at both clinical and familial levels, particularly within the sociocultural context. This study seeks to fill this gap by combining professional psychiatric perspectives with the lived experience of an affected family. Building on this understanding, the present study set out to examine current patterns of methamphetamine use through two complementary qualitative inquiries. The first focused on interviews with psychiatrists working in adult psychiatry departments, with particular attention to their clinical observations regarding recent trends in methamphetamine dependence. The second examines the experiences of a family directly affected by methamphetamine dependence, highlighting the psychosocial dynamics of addiction within domestic life. This hypothesis was grounded in a social-ecological understanding of addiction, which assumes that substance dependence emerges through the continuous interaction between individual, familial, and societal domains[4,8]. Specifically, it was anticipated that the convergence of psychiatric vulnerability, family dysfunction, and structural stressors such as unemployment and global uncertainty would jointly contribute to the development and persistence of methamphetamine dependence. By exploring these dimensions through qualitative inquiry, the study aimed to generate a comprehensive understanding that integrates both professional and lived experiences. Together, these perspectives underscore the urgent need for preventive strategies, community awareness, and integrated mental health responses to address the silent but escalating threat posed by methamphetamine use.

2. Literature review

The complexity of Methamphetamine use disorder requires an interdisciplinary approach that integrates neurobiological, psychological, and socio-environmental perspectives. At the biological level, methamphetamine produces acute euphoria by stimulating dopamine and other monoamines, but chronic exposure results in significant neurotoxicity and long-term alterations in brain circuitry[11]. Neuroimaging research has confirmed structural and functional impairments in the prefrontal cortex and limbic system, which underlie the high relapse rates and severe psychiatric symptoms associated with methamphetamine dependence[12]. Chronic methamphetamine exposure leads to the degeneration of dopaminergic terminals, microglial activation, and oxidative stress, which collectively impair neural plasticity and executive function. These neurotoxic effects contribute to persistent cognitive deficits, impaired decision-making, and emotional dysregulation observed even after prolonged abstinence. Such neuroadaptations indicate that recovery extends beyond detoxification, requiring long-term cognitive and psychiatric rehabilitation[11,12]. Such findings suggest that Methamphetamine use disorder should be conceptualized not merely as a behavioral choice but as a progressive neuropsychiatric disorder.

Psychological and social determinants are equally important in shaping patterns of use. Whitesell et al. emphasize that substance use among youth is often linked to broader social instability, including unemployment, family conflict, and a sense of hopelessness about the future[13]. In recent years, the vulnerabilities associated with methamphetamine use have been intensified by a series of global crises, including economic recessions, climate-related emergencies, and ongoing geopolitical unrest. The aftermath of the COVID-19 pandemic has further compounded these risks, as excessive digital engagement and the decline of in-person social interaction have created fertile ground for both behavioral and substance-related addictions[14]. Scholars have increasingly emphasized the reinforcing cycle between problematic social media use and methamphetamine consumption, pointing to a convergence of psychosocial risk factors that deepen dependency[15].

From a public health perspective, methamphetamine use is closely linked to severe psychiatric outcomes such as paranoid psychosis, hallucinations, and aggressive behaviors[16]. These complications not only strain healthcare systems but also impose significant burdens on families, who often contend with caregiver exhaustion, stigma, and secondary mental health challenges, including depression among relatives[17]. Stigma, in particular, remains a major obstacle, delaying treatment-seeking and prolonging the destructive cycle of addiction[18]. On a global scale, methamphetamine consumption continues to rise. The UNODC World Drug Report (2024) identified it as one of the most rapidly expanding illicit substances worldwide[19]. Likewise, a multicenter study published in 2025 reported a sharp increase in psychiatric admissions linked to methamphetamine, particularly among individuals aged 18–25, underscoring the heightened vulnerability of younger populations[20].

Considered as a whole, the literature consistently frames Methamphetamine use disorder as a multifaceted phenomenon shaped by neurobiological, psychological, and socio-environmental dimensions. While epidemiological studies have provided valuable data on prevalence and risk factors, qualitative work that integrates the perspectives of clinicians and affected families remains comparatively scarce. The present study aims to address this gap by combining professional psychiatric insights with the lived experiences of a family affected by methamphetamine, thereby enriching our understanding of addiction in its environmental and social dimensions.

3. Methodology

This study employed a qualitative research design composed of two complementary sub-studies, both of which aimed to provide a deeper understanding of Methamphetamine use disorder from professional and familial perspectives. Qualitative methods were selected because they are particularly well-suited for capturing the complexity of lived experiences and contextual influences that cannot be adequately represented through quantitative approaches alone[21].

3.1. Procedure

The first investigation involved semi-structured, face-to-face interviews with 21 psychiatrists working in adult psychiatry departments of different hospitals in Turkey. Because of the difficulty in recruiting volunteer psychiatrists, the snowball sampling method was employed. The participating psychiatrists recommended colleagues with relevant experience who might be willing to take part, and these individuals were subsequently contacted for interviews. Consistent with the principles of qualitative research, the number of participants was finalized when thematic saturation was achieved, indicating that additional interviews were unlikely to yield substantially new insights. Information about the participants in the study is presented in **Table 1**.

Table 1. Information about participants in face-to-face interviews (N=21).

Participants	Gender	Years of Clinical Experience	Type
P1	female	4	outpatient clinic
P2	female	6	psychiatry unit
P3	female	3	outpatient clinic
P4	female	3	outpatient clinic
P5	male	4	psychiatry unit
P6	female	9	psychiatry unit
P7	male	7	psychiatry unit
P8	female	10	psychiatry unit
P9	female	11	psychiatry unit
P10	male	9	outpatient clinic
P11	male	12	outpatient clinic
P12	female	8	outpatient clinic
P13	male	4	outpatient clinic
P14	male	5	psychiatry unit
P15	male	6	outpatient clinic
P16	female	3	psychiatry unit
P17	male	5	outpatient clinic
P18	male	5	psychiatry unit
P19	male	6	psychiatry unit
P20	female	10	outpatient clinic
P21	female	7	outpatient clinic

The interview questions were prepared in an open-ended, semi-structured format and then reviewed by three experts in the field. Based on their feedback, the questions were refined to improve clarity, relevance, and alignment with the study objectives. The final version of the interview protocol was then structured around four thematic domains:

1. Perceived trends in methamphetamine use among adolescents and young adults.
2. Observed psychiatric manifestations and diagnostic challenges.
3. Social and environmental determinants influencing addiction trajectories.
4. Approaches to treatment and prevention.

Interviews lasted between 45 and 60 minutes and were conducted in quiet hospital office settings to facilitate open discussion. All interviews were audio-recorded with consent, transcribed verbatim, and anonymized to protect professional identities.

The second investigation The second investigation was carried out concurrently and involved semi-structured interviews with **one family** recently affected by methamphetamine addiction. This single-case family study was designed to provide an in-depth understanding rather than generalizable findings. The family consisted of a mother with a long-term history of depression, a 23-year-old son with a prior diagnosis of social anxiety disorder who had been receiving pharmacological treatment since high school while maintaining a socially isolated lifestyle, his elder brother who was two years older, and their father, who had passed away one year before the study. It was reported that the father had died of a heart attack and that he had also experienced depressive mood related to family circumstances.The younger son's Methamphetamine use disorder developed during his university years and eventually escalated into paranoid thoughts and erratic behavior, which led to his hospitalization. The inclusion criteria for the family were: (1) having a family member diagnosed with methamphetamine dependence confirmed by a psychiatrist, (2) willingness to participate voluntarily, and (3) ability to provide informed consent. Families experiencing acute crisis, recent bereavement unrelated to the addiction, or ongoing legal proceedings were excluded to minimize distress and maintain ethical sensitivity. Information regarding the family is presented in **Figure 1, Figure 2, and Figure 3**.

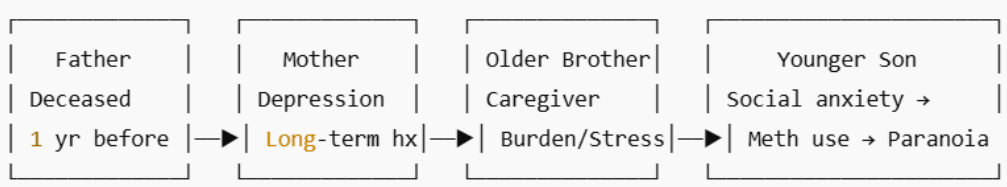

Figure 1. Family structure diagram.

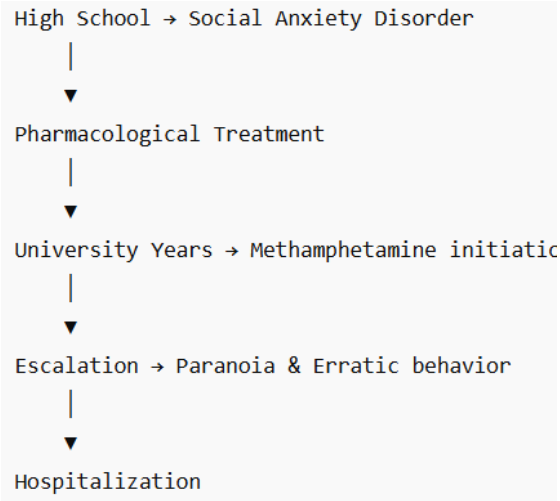

Figure 2. Timeline of younger son's problems.

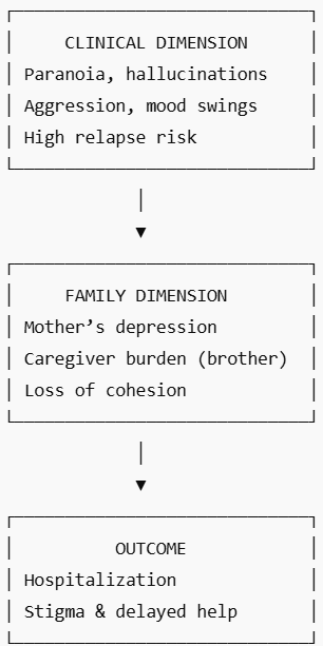

Figure 3. Integrated clinical–family perspective.

Family members were interviewed separately and then jointly, with sessions lasting between 30 and 75 minutes. The questions for the family interviews were developed in alignment with the thematic domains described above and reviewed by three independent experts to ensure clarity and relevance. In practice, the questions focused on the son's trajectory into addiction, the family's emotional responses, coping strategies, and experiences with healthcare services. The use of open-ended questions allowed participants to articulate their perspectives without constraint, while follow-up prompts encouraged elaboration on sensitive topics. Data obtained from the family were then integrated with the psychiatrists' perspectives through a triangulation process, allowing for the corroboration and enrichment of findings across different sources[22].

3.2. Data analysis

All transcripts from both studies were analyzed using thematic analysis, following Braun and Clarke's established six-phase framework: familiarization with the data, initial coding, theme development, review, definition, and reporting[23]. Thematic analysis is a widely used qualitative method for identifying, analyzing, and interpreting patterns of meaning within textual data. It allows researchers to move beyond surface-level descriptions toward understanding the underlying ideas and assumptions expressed by participants[23]. This approach was particularly suitable for the present study, as it enabled the integration of diverse perspectives- those of clinicians and family members- into coherent and meaningful themes. An inductive approach was adopted to allow themes to emerge directly from the participants' narratives. To ensure analytical rigor, two independent coders reviewed the transcripts, and discrepancies were resolved through discussion until consensus was reached.

3.3. Ethical considerations

Ethical approval for the study was obtained from the institutional review board of Cyprus International University (020-12461). All participants provided informed consent prior to participation. Anonymity and confidentiality were strictly maintained throughout the research process. Sensitive details were modified or omitted to protect the identities of the family members involved. Given the vulnerability of the participants, special care was taken to conduct interviews in supportive settings, with appropriate referral information

provided when signs of distress were observed. Participation was voluntary, with the right to withdraw at any time without consequence. In addition to the general consent obtained from all participants, a detailed written informed consent form was provided to each family member. The form outlined the study's purpose, the voluntary nature of participation, confidentiality measures, and the right to withdraw at any time. Verbal confirmation of understanding was also obtained before each interview session to ensure ongoing informed participation. The study was conducted in full accordance with the ethical principles outlined in the Declaration of Helsinki.

4. Results

The results section integrates data from both psychiatrists and family members. By aligning findings from these distinct sources within the same thematic domains, the analysis not only underscores converging perspectives but also offers a more nuanced and comprehensive understanding of methamphetamine addiction. In order to present the findings in a coherent and structured manner, the results are organized under four major thematic domains. Each domain reflects a distinct yet interconnected dimension of methamphetamine addiction, supported by tables and explanatory notes.

4.1. Perceived trends in methamphetamine use among adolescents and young adults

The data related to this domain is provided in **Table 2**. The table presents the themes and sub-themes derived from the content analysis of psychiatrists' and family member evaluations.

Table 2. Evaluations of psychiatrists regarding perceived trends in methamphetamine use among adolescents and young adults.

Themes	Sub Themes
Prevalency	rapid increase
Risk Groups	adolescents
	young adults
Confirmations	environmental
	different disciplines

Through the evaluation regarding perceived trends in methamphetamine use among adolescents and young adults, three sub-themes emerged: Prevalency, Risk Groups and Confirmations. Within the Prevalence theme, the subtheme of Rapid Increase was identified; under the Risk Groups theme, the subthemes Adolescents and Young Adults emerged; and within the Confirmations theme.

4.1.1. Prevalecy

Under the Prevalency theme, the subtheme of rapid increase highlights the accelerating trend observed in recent years.

Clinician perspectives for prevalency

Several psychiatrists emphasized that even within the past year there has been a substantial rise in the number of suspected cases, most of which were ultimately confirmed as methamphetamine dependence. Example of answers include:

> "…In recent years, there has been a marked increase in methamphetamine use, particularly among adolescents and young adults. I can state this quite clearly. To give you an example, in just the past year the number of laboratory tests ordered for suspected Methamphetamine addiction has nearly tripled, with the majority confirming a diagnosis of dependence." (Psychiatrist 7)

> "…Each year surpasses the previous one. The numbers keep climbing. While addiction in general is on the rise, I believe methamphetamine dependence has reached a far more critical threshold." (Psychiatrist 9)

Family perspective for prevalency

The family narrative also reflected this perception of acceleration. The older brother emphasized how quickly his sibling's occasional use escalated:

> "At first, he only used it occasionally during his university years, but within a very short time, it had become constant. We could see the change almost from one semester to the next." (Older Brother)

Overall, both psychiatrists and the family accounts converged on the perception that methamphetamine use is rising. Clinicians emphasized the sharp increase in confirmed diagnoses and laboratory tests, while the family described how quickly experimental use escalated into full dependence within their own household. Together, these perspectives underscore that the problem is not only visible in hospitals but also deeply felt in everyday family life, reflecting the dual urgency of addressing Methamphetamine use disorder at both medical and social levels.

4.1.2. Risk groups

Within the risk groups theme, the subthemes adolescents and young adults emerged.

Clinician perspectives for risk groups

Psychiatrists reported that adolescence is the typical age of initiation, whereas young adulthood is more often the period when individuals present for diagnosis or when use escalates into full dependence. At the same time, they noted that Methamphetamine use disorder can be found across all age and occupational groups. Selected views include:

> "…We observe methamphetamine dependence across all ages and professions. However, the most vulnerable group is clearly adolescents and, in particular, young adults who are unemployed or working in unstable jobs." (Psychiatrist 20)

> "…Special attention must be paid to the 18–25 age group; otherwise, the rise in cases will continue to multiply day by day." (Psychiatrist 15)

Family Perspectives for risk groups

The family account mirrored this trend, as the younger son began using during his university years and rapidly developed dependence:

> "He told us he first tried it to calm his anxiety at university. But instead of helping, it took over his life, and soon he could not stop." (Mother)

Both the psychiatrists' evaluations and the family's lived experience point to adolescents and young adults as the most vulnerable groups in the trajectory of methamphetamine use. Clinicians highlighted how early initiation during adolescence often progresses to dependence in young adulthood, particularly when coupled with unemployment or unstable life conditions. The family narrative echoed this concern, as the younger son's experimentation during university years rapidly developed into addiction, imposing heavy emotional and practical burdens on his relatives.

4.1.3. Confirmations

Under the Confirmations theme, the subthemes Environmental and Different Disciplines were identified.

Clinician perspectives for confirmations

Within the Environmental subtheme, psychiatrists referred to reports and publications noting the detection of methamphetamine residues even in wastewater analyses, which they regarded as a serious warning sign. In the Different Disciplines subtheme, psychiatrists mentioned conversations with professionals from other fields—such as educators—who independently confirmed the growing prevalence of methamphetamine use within their own contexts.

Examples of such statements include:

> "…It has been reported that traces of this substance are now detected even in wastewater analyses. So, beyond our clinical findings and hospital observations, environmental evidence itself confirms the increase." (Psychiatrist 1)

> "…Just the other day, I was speaking with a teacher friend working in a high school, and he too was concerned about the situation in schools. When such a problem exists, its reflections inevitably appear in other disciplines that also work directly with people." (Psychiatrsit 16)

Family perspective for confirmations

The family also validated these broader concerns through their lived experiences:

> "When my brother became addicted, I realized it was not just our family. I met another family like us and I see that that the parents were also worried about their children experimenting with it." (Brother)

4.2. Observed psychiatric manifestations and diagnostic challenges

Through the evaluation of psychiatrists regarding the psychiatric manifestations and diagnostic challenges associated with methamphetamine dependence, two major themes were identified: Psychiatric Manifestations and Diagnostic Challenges. In addition, complementary insights from family narratives enriched these themes by highlighting how psychiatric symptoms and diagnostic delays were experienced in domestic life. The data related to this domain is provided in **Table 3**.

Table 3. Observed psychiatric manifestations and diagnostic challenges in Methamphetamine addiction.

Themes	Sub Themes
Psychiatric manifestation	paranoia & hallucinations aggression & agitation sleep & mood disturbances cognitive ımpairment
Diagnostic challenges	differentiation from other disorders comorbidity with depression/anxiety underreporting & stigma need for laboratory confirmation

Within the Psychiatric Manifestations theme, the subthemes of paranoia and hallucinations, aggression and agitation, sleep and mood disturbances, and cognitive ımpairment emerged. under the diagnostic challenges theme, the subthemes of differentiation from other disorders, comorbidity with depression and anxiety, underreporting and stigma, and need for laboratory confirmation were highlighted.

4.2.1. Psychiatric manifestations

Clinician perspectives for psychiatric manifestations

Psychiatrists consistently emphasized the severity of symptoms. They noted that paranoia and hallucinations were among the most common clinical presentations, often leading to hospitalization. Aggression and agitation were also described as frequent and difficult to manage, placing both families and clinicians under pressure. Sleep disturbances and mood fluctuations were seen as universal features, while cognitive impairments, such as memory and attention deficits, were reported to persist even after withdrawal.

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Examples of such statements include:

> "…Many of the young patients come in convinced that someone is following them or watching them. Hallucinations are frequent." (Psychiatrist 2)

> "…Insomnia, irritability, and rapid mood swings are almost universal in methamphetamine cases… We see sudden aggression, often disproportionate to the situation. Families usually bring them in when behavior becomes unmanageable." (Psychiatrist 11)

> "Even after withdrawal, attention and memory problems persist, making daily functioning very difficult." (Psychiatrist 21)

Family perspective for psychiatric manifestations

Family members described these symptoms in daily life, emphasizing their disruptive impact on family cohesion.

> "At home he constantly believed someone was watching him through the window. He even accused us of plotting against him." (Mother)

> "He would shout and break things suddenly. We were afraid and didn't know how to calm him down." (Older Brother)

> "We hardly slept for weeks because he was awake all night, restless and agitated." (Mother)

4.2.2. Diagnostic challenges

Clinician Perspectives for diagnostic challenges

Psychiatrists described the complexity of distinguishing methamphetamine-induced psychosis from primary psychiatric disorders, particularly schizophrenia. They also emphasized that comorbidity with depression and anxiety often blurred the diagnostic picture. Stigma emerged as another critical barrier, with families frequently concealing drug use until crises escalated, thereby delaying intervention. Finally, the need for laboratory confirmation was underlined, as overlapping clinical features with other psychiatric conditions increased the risk of misdiagnosis. Some of the examples

> "…It is often hard to distinguish meth-induced psychosis from schizophrenia, especially when symptoms linger." (Psychiatrist 18)

> "Most of our patients also present with depression or anxiety, so it becomes difficult to identify what stems from meth and what is pre-existing." (Psychiatrist 4)

> "Families often hide the drug use because of shame, so we only learn about it after a crisis occurs." (Psychiatrist 10)

> "Clinically, symptoms overlap with many psychiatric disorders, so without lab tests, misdiagnosis is possible." (Psychiatrist 17)

Family Perspective for diagnostic challenges

Family members also reflected on these diagnostic difficulties, noting that shame and misattribution of symptoms led to delays in seeking treatment.

> "We did not tell the doctor about his drug use at first because in the beginning we did't know also, when learned we were ashamed. That delayed everything." (Mother)

> "When his paranoia worsened, we thought it was just stress or a worsening of his anxiety." (Older Brother).

Overall, the perspectives of clinicians and family members were found to complement one another. Psychiatrists primarily drew attention to the diagnostic challenges created by overlapping symptoms, whereas the family narrative conveyed the everyday reality of living with paranoia, aggression, and the late recognition of substance use. Bringing these viewpoints together highlights the value of combining clinical assessments with psychosocial insights in order to improve the timeliness and accuracy of intervention.

4.3. Social and environmental determinants influencing addiction trajectories

Analysis of the social and environmental factors influencing the course of addiction revealed several closely connected themes. These included socioeconomic instability, family dynamics, global and collective crises, and the role of digital and media exposure. In addition, cultural taboos and the stigma attached to substance use emerged as important forces shaping vulnerability to methamphetamine dependence. The data related to this domain is shown in **Table 4**.

Table 4. Social and environmental determinants influencing addiction trajectories.

Themes	Sub Themes
Socioeconomic instability	unemployment and financial strain future uncertainty
Family and domestic environment	conflict and dysfunction caregiver mental health
Global and collective stressors	geopolitical and climate crises post-covid effects
Digital and media influence	excessive digitalization social media anxiety
Cultural and stigmatization factors	stigma and shame cultural taboos

Under the Social and environmental determinants influencing addiction trajectories heading, five major themes were identified: Socioeconomic Instability, Family and Domestic Environment, Global and Collective

Stressors, Digital and Media Influence, and Cultural and Stigmatization Factors. Each theme contained distinct subthemes that illuminated the complex contextual factors shaping vulnerability to methamphetamine use.

4.3.1. Socioeconomic instability

Clinician perspectives for socioeconomic instability

Psychiatrists emphasized that unemployment and economic hardship represent some of the most powerful triggers for substance use, particularly among young adults. Individuals who are unemployed or engaged in insecure, temporary work often reported feelings of financial pressure and worthlessness, which in turn drove them toward methamphetamine as a perceived escape. In this context, dependence was described not merely as an individual choice but as a manifestation of broader socioeconomic vulnerability. A lack of confidence in the future and pervasive hopelessness also emerged as critical risk factors. Psychiatrists noted that when adolescents and young adults lack a clear vision regarding their future prospects in education, employment, or personal stability, they are more likely to fill this void through drug use. Participants frequently reported that many young people expressed a sense of "having no hope for the future," underscoring how existential insecurity can reinforce pathways to dependence. Some of the perspectives expressed within this scope are as follows:

> "Those who are unemployed or working in temporary jobs are especially vulnerable—meth seems to become a way to escape the despair of economic instability." (Psychiatrist 13)

> "When young people believe there is nothing ahead of them, they are more likely to experiment with substances like meth as a form of escape." (Psychiatrist 19)

Family perspective for socioeconomic instability

From the family's standpoint, socioeconomic instability and future uncertainty were perceived as central factors shaping the son's pathway into addiction. The mother described how the constant financial stress and her son's difficulty finding stable employment contributed to his sense of hopelessness. This atmosphere of insecurity fostered feelings of inadequacy and isolation, which ultimately made methamphetamine appear as a form of temporary relief. The older brother also highlighted that his sibling often spoke about lacking a future, expressing despair over both career prospects and broader life opportunities. These accounts illustrate how structural vulnerabilities were experienced intimately within the household, turning abstract social pressures into concrete emotional struggles.

> "He would often say, 'What future do I even have?' He felt there was no stable job waiting for him, and this hopelessness pushed him toward drugs." (Older Brother)

> "Our financial situation was always unstable, and he carried that burden heavily. I could see how much it made him feel worthless." (Mother)

> "It was not only about money; he truly believed that nothing good was ahead of him. That despair became part of his daily life." (Older Brother)

Taken together, both clinician and family perspectives converge on the understanding that socioeconomic hardship and uncertainty about the future form a mutually reinforcing cycle that amplifies vulnerability to methamphetamine use. While psychiatrists framed these conditions as structural risk factors, the family's narrative revealed how such pressures were felt in daily life, shaping emotions of hopelessness, inadequacy, and despair. This overlap underscores that addiction trajectories cannot be separated from the broader social and economic environment in which individuals and families struggle to cope.

4.3.2. Family and domestic environment

Clinician perspectives for family and domestic environment

Psychiatrists highlighted that the family environment plays a pivotal role in shaping both the initiation and progression of methamphetamine dependence. Persistent conflict and dysfunction within households were described as catalysts that accelerate vulnerability, with adolescents and young adults often seeking substances as a way to cope with relational instability. Clinicians also noted that caregiver mental health is a critical determinant: when a parent is already struggling with depression or anxiety, the emotional atmosphere within the family may amplify the risk of drug use in children. In such contexts, methamphetamine was often framed as a maladaptive strategy for managing distress rather than a purely recreational choice. Psychiatrists stressed that familial strain and untreated mental health conditions can create a cycle where intergenerational vulnerabilities accumulate, making early intervention more difficult.

> Some of the perspectives expressed within this scope are as follows: "Families with chronic conflict often see their children turn to substances earlier, and the transition to dependence happens more quickly." (Psychiatrist 6)
>
> "When a parent is depressed or anxious, it changes the entire household dynamic. This kind of environment significantly heightens a child's susceptibility to methamphetamine use." (Psychiatrist 14)

Family Perspective for family and domestic environment

From the family's point of view, methamphetamine use did not arise in isolation but was deeply entangled with existing vulnerabilities within the household. The mother, who had long struggled with depression, reflected on how her own emotional fragility left her feeling powerless when her son's dependency began to unfold. The mother reflected that ongoing tensions and unspoken conflicts within the household created a fragile environment that intensified her son's social anxiety and deepened his isolation. The older brother, in turn, spoke about the heavy weight of caregiving, explaining that his own life was significantly disrupted as he took on responsibility for both his mother and his younger sibling. Taken together, their testimonies illustrate how parental mental health struggles and family dysfunction not only contributed to the onset of addiction but also magnified its impact over time. Illustrative remarks included:

> "At the time I was already dealing with depression, and I simply did not have the strength to face his addiction. It felt as though our entire family was falling apart." (Mother)
>
> "My brother's anxiety always seemed worse at home, where the stress never stopped. Once he began using, everything quickly went out of control." (Older Brother)
>
> "My father was hardly ever at home; he would only come back to sleep, almost as if to avoid being affected by the family environment. Losing him was a heavy blow for my mother, though my brother had already been showing symptoms before that. From time to time, he saw psychiatrists and received treatment, but until I stepped in and took responsibility for managing the process, the issue of his dependency went largely unnoticed. No one in the family wanted to acknowledge it."

Taken together, the perspectives of both psychiatrists and the family converge on the recognition that the domestic environment plays a pivotal role in shaping addiction trajectories. Clinicians highlighted how conflict, instability, and parental mental health difficulties heighten vulnerability, while the family narrative vividly

illustrated how these dynamics unfold in everyday life; through silence, avoidance, and delayed acknowledgment of the problem. The overlap between professional and lived accounts underscores that methamphetamine dependence cannot be disentangled from the relational context in which it develops.

4.3.3. Global and collective stressors

Clinician perspectives for global and collective stressors

Psychiatrists noted that large-scale crises, such as geopolitical instability, armed conflicts, and climate-related disasters, have a profound impact on the emotional well-being of adolescents and young adults, often serving as indirect drivers of methamphetamine use. Many patients were reported to link their anxiety, insomnia, and feelings of helplessness directly to these ongoing events. Rather than being perceived as distant problems, such crises were experienced as persistent psychological burdens, reinforced by constant exposure to media coverage, and contributing to a climate of chronic fear and uncertainty. Clinicians also drew attention to the lasting effects of the COVID 19 pandemic. Extended periods of social isolation, disrupted daily routines, and heavy reliance on digital platforms were described as conditions that heightened vulnerability, leaving many young people more susceptible to substance use as a maladaptive way of coping. In this context, patients often described methamphetamine as a means of dulling overwhelming anxieties or filling the social void left by a fractured community life. According to psychiatrists, these global and collective stressors do not act in isolation; rather, they compound existing vulnerabilities and intertwine personal struggles with broader instability, making prevention and treatment far more complex.

> "Patients often say they struggle to sleep because of distressing news, including wars, disasters, and constant crises. For some, methamphetamine feels like a way to quiet that anxiety, even if only for a short while." (Psychiatrist 5)

> "Many patients tell us they lie awake at night after following the news—wars, disasters, constant crises.

> "The pandemic has left a lasting imprint. Many young people lost social ties, and in that vacuum, methamphetamine has become a dangerous substitute for connection." (Psychiatrist 12)

Family perspective for global and collective stressors

The family's narrative echoed the clinicians' concerns, revealing how global crises and the aftermath of the pandemic filtered into their domestic life and shaped the younger son's vulnerabilities. The mother recalled that news about wars and disasters would trigger intense anxiety in her son, who frequently verbalized fears about an uncertain future. These fears, amplified by constant exposure to social media, seemed to push him further into reliance on methamphetamine as a way to cope.

The brother also emphasized how the pandemic had deepened his sibling's isolation. University closures and the loss of daily routines deprived him of social interactions, leaving him increasingly withdrawn. Within this void, methamphetamine was described as a maladaptive replacement for real social connection. The family reported that such external stressors did not remain abstract but became tangible forces within their household, magnifying existing psychological struggles and accelerating the path to dependence.Illustrative reflections include:

> "He used to stay up late, scrolling through the news about wars or disasters. Afterward, he was restless, pacing the house, convinced that everything was collapsing." (Mother)

> "During the pandemic, he lost his few close contacts. That loneliness never really ended, and meth filled the empty space." (Older Brother)

Taken together, the perspectives of clinicians and family members converge on the recognition that global and collective stressors are not abstract background factors but active forces shaping the lived experience of addiction. Clinicians emphasized how geopolitical instability, climate-related crises, and the lingering effects of the pandemic contribute to heightened vulnerability among youth, while the family narrative vividly demonstrated how these external pressures permeated the household, intensifying fear, isolation, and maladaptive coping. The alignment of these perspectives underscores the importance of addressing macro level determinants; such as global uncertainty and digital overexposure within public mental health frameworks, as they intersect directly with micro-level familial struggles and individual trajectories into dependence.

4.3.4. Digital and media influence

Clinician perspectives for digital and media influence

Psychiatrists emphasized that excessive digitalization and constant exposure to social media have become critical contextual factors in the trajectory of methamphetamine dependence. They noted that young people increasingly spend prolonged hours online, which reduces real-life social interactions and fosters isolation, thereby heightening vulnerability to substance use. In this context, methamphetamine was frequently described as a maladaptive coping mechanism to manage the anxiety and emptiness generated by digital overexposure.

They also highlighted the role of social media in amplifying distress. The continuous flow of catastrophic news, ranging from economic instability to wars and natural disasters, was said to trigger pervasive anxiety among adolescents and young adults. For some, methamphetamine use appeared to serve as an escape from this overwhelming digital environment. This link between behavioral addictions, such as social media overuse, and chemical addictions was consistently underlined as an emerging clinical reality that requires integrated preventive approaches.

Some of the perspectives expressed within this scope are as follows:

> "We see that overuse of digital platforms reduces real social contact and indirectly fosters reliance on substances like meth." (Psychiatrist 2)

> "Constant exposure to catastrophic news on social media feeds their anxiety, and some of them seek relief through meth use." (Psychiatrist 18)

Family perspective for digital and media influence

From the family's perspective, digital and media influences were strongly intertwined with the younger son's progression into addiction. His mother and older brother both noted that he spent long hours in isolation, frequently immersed in social media and online platforms rather than engaging with the family or peers. This excessive digital engagement appeared to intensify his pre-existing social anxiety and reinforced his withdrawal from everyday life.

The family further explained that constant exposure to negative news online deepened his sense of hopelessness and insecurity. The mother recalled that he would often stay up late at night scrolling through social media feeds filled with distressing content about global crises, after which his mood would worsen. The older brother emphasized that methamphetamine seemed to become an extension of this digital escape, serving as a way to silence the anxiety and insomnia that his online behaviors had amplified.

Illustrative reflections include:

> "He stayed in his room most of the time, always online and that isolation grew worse with time." (Mother)

> "He was constantly exposed to bad news on the internet such as wars, disasters, economic collapse. It made him more anxious, and eventually, he may have turned to methamphetamine as a way to calm himself." (Older Brother)

Taken together, the perspectives of both psychiatrists and family members converge on the recognition that digital and media exposure plays a pivotal role in shaping vulnerability to methamphetamine use. Clinicians highlighted how excessive engagement with social media and continuous exposure to catastrophic news amplify anxiety and erode resilience, while the family narrative vividly illustrated this process in daily life, as the son's constant preoccupation with online crises intensified his distress and ultimately contributed to substance use

4.3.5. Cultural and stigmatization factors

Clinician perspectives for cultural and stigmatization factors

Psychiatrists underscored that stigma and cultural taboos remain among the most persistent barriers to addressing methamphetamine dependence effectively. Families often delay seeking professional help out of fear of social judgment, leading to crises where intervention comes only after severe psychiatric symptoms emerge. Clinicians pointed out that feelings of shame around drug use often delay treatment and encourage secrecy within families, making it harder to notice and respond to early warning signs. In their view, stigma acts not only as an emotional burden but also as a structural barrier, trapping families in cycles of silence that postpone intervention.

Cultural taboos were also described as a complicating factor. Open conversations about substance use are still rare, and addiction is frequently regarded as a moral weakness rather than a health problem. According to psychiatrists, this outlook discourages people from admitting their struggles and limits the willingness of families and professionals to engage in early preventive discussions. Consequently, treatment is often sought only at advanced stages of dependence, when symptoms have escalated and recovery becomes more difficult. Clinicians stressed the urgent need for awareness campaigns that reframe addiction as a mental health and social issue rather than a personal weakness, thereby reducing stigma and encouraging earlier help seeking behaviors. Illustrative reflections include:

> "Families often conceal meth use until the situation reaches a crisis point. Shame delays treatment and worsens outcomes." (Psychiatrist 1)

> "Drug use is still treated as a taboo subject in many communities. This silence prevents open dialogue and stops us from intervening before dependence becomes severe." (Psychiatrist 7)

Family Perspective for cultural and stigmatization factors

The family's reflections strongly echoed the psychiatrists' concerns about the weight of stigma and cultural silence surrounding addiction. The mother and older brother both described how shame and fear of judgment delayed their willingness to disclose the younger son's methamphetamine use. At first, the mother thought her son's paranoia and unpredictable behavior were simply signs of stress or his long-standing anxiety. She also admitted that the family avoided speaking about his drug use with relatives or neighbors, fearing gossip and social exclusion. This hesitation meant that professional help was not sought until much later, by which time his dependence had already progressed to psychosis. Both the mother and the older brother noted that cultural taboos around substance use made open conversation difficult, even within their own household.

The brother added that denial and silence became ways of coping, since the family did not feel prepared to acknowledge addiction openly. In this way, stigma not only delayed treatment but also deepened their isolation, adding to the emotional strain the family was already facing. Illustrative reflections include:

> "In the beginning, we avoided talking about his drug use, even with the doctor. We felt too ashamed to bring it up." (Mother)

> "In our community, addiction is usually something families keep hidden". (Older Brother)

Overall, both the psychiatrists and the family highlighted how stigma and cultural taboos play a central role in the course of methamphetamine addiction. While clinicians emphasized how shame and societal silence delay diagnosis and intervention, the family's narrative revealed the lived reality of this process, where denial and fear of judgment prolonged suffering and reinforced isolation. This overlap highlights that stigma is not merely an abstract barrier but a concrete social force that undermines both clinical efforts and familial resilience, underscoring the urgent need for culturally sensitive strategies to reduce shame and promote earlier engagement with treatment services.

4.4. Approaches to treatment and prevention

Through the evaluations concerning approaches to treatment and prevention, four interconnected themes were identified. These included Clinical Approaches, Early Prevention and Education, Skill-Building Interventions, and Holistic and Multidisciplinary Approaches. Each theme reflects a different yet complementary dimension on effective responses to methamphetamine dependence. Together, they highlight the necessity of moving beyond medication alone to incorporate therapeutic relationships, early family and societal education, practical coping strategies, and integrative public health efforts. This framework underscores that treatment and prevention are most effective when clinical care is coupled with preventive, educational, and community-based interventions. The data related to the approaches to treatment and prevention is provided in **Table 5**.

Table 5. Approaches to treatment and prevention.

Themes	Sub Themes
Clinical approaches	medication and stabilization therapeutic relationship
Early prevention and education	early roots of dependence family awareness
Skill-building ınterventions	coping and problem-solving
Holistic and multidisciplinary approaches	ıntegrated preventive efforts

Under the Approaches to Treatment and Prevention heading, four major themes were identified: Clinical Approaches, Early Prevention and Education, Skill-Building Interventions, and Holistic and Multidisciplinary Approaches. Each of these themes was supported by distinct subthemes that highlighted the diverse strategies required to address methamphetamine dependence effectively. Clinical Approaches emphasized the central role of therapeutic relationships and the judicious use of medication, while Early Prevention and Education underscored the importance of childhood and adolescent interventions as well as family awareness. Skill-Building Interventions focused on equipping individuals with problem-solving and coping abilities to reduce relapse risk, and Holistic and Multidisciplinary Approaches stressed the necessity of integrated, community-

based, and cross-sectoral responses. Together, these perspectives illustrate that no single strategy is sufficient; instead, a layered and collaborative framework is essential for both treatment and prevention.

4.4.1. Clinical aproaches

Clinician perspectives for clinical approaches

Psychiatrists emphasized that while pharmacological treatment remains an important component in the management of methamphetamine dependence, it cannot stand alone. Several clinicians described their primary role in outpatient settings as diagnostic assessment and stabilization through medication, yet they cautioned against viewing medication as a sufficient solution. Instead, they highlighted the therapeutic relationship as a central determinant of recovery. Patients who felt genuinely understood and valued were perceived as more likely to engage with care and show improvements, regardless of the specific modality applied.

Clinicians also reflected on the broader limitations of medication-centered care, noting that many methamphetamine users present with complex psychosocial needs that extend beyond what pharmacology can address. In these cases, the establishment of trust, consistency, and nonjudgmental communication were seen as equally vital to reducing relapse and fostering long-term adherence to treatment. Rather than prioritizing one therapeutic technique over another, psychiatrists stressed the importance of a patient-centered approach, where the sense of being heard and respected forms the foundation for effective intervention. Below are the examples:

> "I am not primarily a therapist; most of my work is in the outpatient clinic. We diagnose, prescribe necessary medications, and provide stabilization. But the real impact comes from the connection—patients need to feel understood and valued." (Psychiatrist 10)

> "Whether it is cognitive-behavioral therapy or another method, what truly matters is whether the patient believes the process is meaningful. If they feel supported, treatment is far more effective." (Psychiatrist 19)

Family perspective for clinical approaches

From the family's standpoint, clinical approaches were valued not only for their medical contribution but also for the sense of security they provided. The mother and older brother emphasized that the initial diagnosis and medication offered some relief, as it gave a concrete explanation for the younger son's erratic behavior. However, they repeatedly stressed that what mattered most in practice was the quality of the interaction with clinicians. Moments in which the son felt listened to and treated with dignity were described as pivotal in reducing his resistance to care.The family also acknowledged the limitations of pharmacological treatment when used in isolation. They observed that while medication helped stabilize symptoms temporarily, it did not fully address the underlying emotional struggles or restore family cohesion. They believed that therapeutic encounters which prioritized empathy, open communication, and trust had a stronger impact on the patient's willingness to continue treatment than the prescriptions themselves. Some example statements include:

> "…what truly made a difference was when the doctor listened to him and showed understanding..." (Mother)

> "He seemed much more willing to cooperate when he felt respected, rather than being treated like just another case. That respect kept him involved in the process." (Older Brother)

Both psychiatrists and family members agreed that clinical care should not depend on medication alone, but also on the quality of the therapeutic relationship, trust, and genuine understanding. Clinicians pointed out that treatment becomes more effective when it goes beyond diagnosis and prescriptions to include human connection, while the family stressed that respect and empathy encouraged their relative to stay engaged in care. These perspectives highlight the need to combine clinical knowledge with compassionate, relationship-based practices when addressing methamphetamine dependence.

4.4.2. Early prevention and education

Clinician perspectives for early prevention and education

Psychiatrists emphasized that prevention should begin long before the first signs of substance use. They explained that the roots of methamphetamine dependence often lie in patterns formed during childhood and adolescence, rather than appearing suddenly in adulthood. From their perspective, helping children develop healthy social skills early on, together with clear guidance about digital habits, could lower the risk of later problems. Several clinicians also noted that the widespread acceptance of long hours of screen use has reduced opportunities for real-life interaction, leaving young people more vulnerable to anxiety and unhealthy coping. They also highlighted the role of families as central to prevention. Parents, they suggested, need support and education to recognize early warning signs and to strengthen their children's ability to cope with stress. In this sense, families were seen not as passive observers but as active partners in reducing the risk of addiction. They argued that prevention should not be confined to clinical or school-based settings but should also extend into everyday family life, where attitudes and habits are first shaped. Early psychoeducational initiatives, therefore, were seen as critical not only for children but also for parents, enabling them to serve as informed allies in the prevention of substance use. Alternative interventions such as school-based awareness programs, community workshops, and structured guidance on coping strategies were suggested as complementary tools. Ultimately, clinicians framed early prevention as a multi-layered responsibility requiring collaboration between families, schools, healthcare providers, and broader society.

> Addiction rarely begins in adulthood; the roots are often in behaviors formed during adolescence or earlier." (Psychiatrist 1)

> "Children must be supported in developing social skills from the earliest years, and both they and their families should be educated about digital well-being." (Psychiatrist 10)

> "Families are the first line of prevention. Without educating parents, no program will achieve its full impact." (Psychiatrist 16)

> "Solution-focused skills training could empower young people to handle stress without resorting to substances." (Psychiatrist 18)

Family Perspective for early prevention and education

The family's reflections strongly aligned with clinicians' views on the importance of early prevention. Both the mother and the older brother emphasized that the younger son's difficulties with social anxiety began long before his first exposure to methamphetamine, and that more structured support during adolescence might have changed the trajectory. They suggested that preventive interventions should not only focus on substance awareness but also address the everyday struggles of young people, such as isolation, lack of coping skills, and insufficient emotional support at home.

The mother in particular stressed that had she been better informed about how to support her son in developing resilience and managing his anxiety, the family might have sought help earlier. She noted the

absence of guidance on how parents can navigate digital exposure and mental health challenges in their children, highlighting that these gaps left the family vulnerable. The older brother echoed these concerns, adding that prevention should begin at the family level, where small signs of withdrawal or emotional distress are first observed. Some comments included:

> "Looking back, his anxiety started in high school. Before high school he was very introvert. If we had known how to support him better, maybe things would not have escalated." (Mother)

> "No one told us how dangerous excessive isolation or screen time could be. We simply didn't realize until it was too late." (Mother)

> "As a brother, I could see he was struggling, but without proper knowledge or guidance, I didn't know how to intervene." (Older Brother)

Both clinicians and the family members underscored that prevention must begin long before the onset of substance use. While psychiatrists highlighted the need for early interventions in schools and families to strengthen social and emotional skills, the family's testimony revealed how the absence of such guidance left them unprepared to respond to early signs of vulnerability. The convergence of these perspectives reinforces the idea that prevention is most effective when it combines clinical expertise with family-centered education, ensuring that young people and their caregivers are better equipped to navigate the challenges that precede methamphetamine use.

4.4.3. Skill-building interventions

Clinician perspectives for skill-building interventions

Psychiatrists emphasized that fostering resilience and equipping individuals with adaptive coping skills are vital components in both preventing and managing methamphetamine dependence. They observed that many young people who turned to methamphetamine lacked effective strategies for managing stress, anxiety, and social pressures. In this regard, building life skills, such as problem-solving, emotional regulation, and communication, was highlighted as a protective factor that can reduce methamfetamine use.

Clinicians also explained that that skill-building interventions need to begin early and be adapted to the developmental stage of young people. They explained that programs for adolescents should not be limited to information about drugs, but should also help strengthen self-confidence and provide tools to handle uncertainty. Several psychiatrists added that digital literacy and guidance on responsible technology use are becoming increasingly important, as excessive screen time and online exposure are often linked to higher levels of anxiety and a greater risk of substance misuse.

Rather than presenting skill-building as an isolated intervention, psychiatrists framed it as part of a continuum that reinforces clinical treatment, family support, and community engagement. When individuals acquire concrete coping tools, clinicians suggested, they are better able to manage cravings, handle daily stressors, and envision a future without reliance on substances. Perspectives shared by the psychiatrists included:

> "Many of our patients never learned healthy ways of coping with stress. Skills such as emotional regulation and problem-solving can make a real difference in reducing relapse." (Psychiatrist 2)

> "Education is not only about drugs. Young people need training in self-confidence, communication, and resilience, otherwise they remain vulnerable to meth and similar substances." (Psychiatrist7)

> "Digital literacy and the ability to manage online stressors are just as important today as traditional life skills. Ignoring this leaves a major gap in prevention." (Psychiatrist 17)

Family perspective for skill-building interventions

From the family's perspective, the absence of practical coping skills and limited emotional resilience were central to the younger son's vulnerability to methamphetamine. The mother reflected that her son had always struggled with social anxiety and lacked the confidence to navigate peer relationships, leaving him isolated and more susceptible to unhealthy coping strategies. She emphasized that neither the family nor the school had been able to provide him with adequate tools to manage stress or negative emotions.

The older brother similarly expressed regret that he lacked the knowledge or skills to support his sibling effectively. He described how the family's initial responses focused on discipline or avoidance rather than constructive communication, which only deepened his brother's sense of alienation. Both family members highlighted that structured programs offering guidance in social skills, stress management, and problem-solving could have played a critical role in prevention, particularly if introduced during adolescence. Excerpts reflecting these views are:

> "He always avoided social situations because of his anxiety. If he had learned how to manage that, maybe he wouldn't have turned to drugs as an escape." (Older Brother)

> "Families need training too. If we had known how to talk to him and support him, things might have turned out differently." (Mother)

Viewed collectively**,** the clinicians' emphasis on structured skill-building and the family's reflections on unmet needs converge on a shared understanding: without the development of social, emotional, and coping capacities, adolescents and young adults remain highly vulnerable to substance use. Both perspectives highlight that preventive efforts must extend beyond clinical settings, equipping not only individuals but also families with the practical tools required to navigate stress, anxiety, and interpersonal challenges.

4.4.4. Holistic and multidisciplinary approaches

Clinician perspectives for holistic and multidisciplinary approaches

Psychiatrists repeatedly underscored that methamphetamine dependence cannot be effectively managed through isolated medical treatment alone. They emphasized the necessity of combining psychiatric care with psychological counseling, social support services, and community-based resources. Several clinicians pointed out that fragmented care often leaves patients vulnerable to relapse, whereas coordinated interventions across different disciplines create a more sustainable pathway to recovery. This broader approach was described as vital not only for symptom management but also for addressing the social and environmental drivers of addiction, such as unemployment, stigma, and family strain.

One psychiatrist highlighted the importance of collaboration:

> *"Medication and diagnosis are only part of the solution. Without preventive initiatives and multidisciplinary follow-up, our efforts remain incomplete."* (Psychiatrist 8)

Another emphasized the following dimension:

"Addiction should be addressed from multiple perspectives:medical, psychological, and social. Only then can we move from crisis management toward real prevention." (Psychiatrist 16)

Finally, a participant stressed the broader public health implications:

"This is not just about treating one patient at a time; it requires systemic strategies that link hospitals, schools, and families in a common effort." (Psychiatrist 20)

Family perspective for holistic and multidisciplinary approaches

From the family's standpoint, recovery was seen as requiring more than medical attention alone. The mother and older brother described how fragmented care initially left them feeling unsupported, with the burden of managing crises falling almost entirely on their shoulders. They emphasized that professional help should extend beyond prescriptions to include guidance for families, emotional support, and accessible community resources. For them, effective care meant not only treating the addicted son but also strengthening the household's capacity to cope with the strain of his illness.

The mother reflected on the need for integrative assistance:

"Medication alone was never enough. We needed someone to guide us as a family, to help us understand what was happening and how we could support him."

The older brother also highlighted the importance of broader support:

"I was left to figure things out on my own most of the time. If there had been more structured programs for families like ours, we wouldn't have felt so isolated in dealing with this."

Both perspectives converged on the view that comprehensive care should link clinical treatment with counseling, psychoeducation, and social support, ensuring that families are active partners in the recovery process rather than passive bystanders.

Bringing together the insights of both psychiatrists and family members, a shared conclusion emerges: methamphetamine dependence cannot be effectively addressed through medication or isolated clinical care alone. Clinicians highlighted the necessity of integrated, cross-disciplinary interventions, while the family underscored the emotional and practical gaps they experienced when such support was absent. Together, these perspectives illustrate that long-term recovery requires a coordinated system where medical treatment is combined with counseling, psychoeducation, and community-based resources. In this way, both professional expertise and lived experience converge to advocate for a more holistic model of care that addresses the individual, the family, and the wider social environment simultaneously.

5. Discussion

This study set out to bring together both clinical and family perspectives on Methamphetamine use disorder in order to better understand how the disorder emerges, presents, and is addressed. The analysis was organized around four main themes: perceived trends, psychiatric symptoms and diagnostic challenges, social and environmental influences, and approaches to treatment and prevention. Framing the findings in this way allowed the research to present Methamphetamine use disorder not only as a clinical condition but also as a social problem with wide-reaching consequences. By combining the insights of psychiatrists with the lived

experience of a family, the study provides a more nuanced picture of how addiction affects both medical practice and everyday life. The discussion that follows compares the present findings with previous research, highlighting areas of convergence and divergence across clinical, familial, and socio-environmental dimensions.

5.1. Perceived trends in methamphetamine use among adolescents and young adults

The results of this study point to a sharp rise in methamphetamine use, particularly among adolescents and young adults. Psychiatrists noted a clear increase in the number of patients presenting with suspected dependence, while the family account described how casual use quickly escalated into sustained addiction. These findings are consistent with epidemiological reports that highlight a worldwide growth in methamphetamine use, especially in the 18–25 age group[24]. Clinicians stressed that each year brings a heavier clinical workload, suggesting that the problem is not only ongoing but becoming more severe. When considered alongside the family's experience, these professional observations highlight the urgent need for prevention programs aimed at adolescents and university students, who are especially vulnerable due to peer influence, academic pressures, and social instability[25]. While this pattern aligns with international trends[24,25], some regional data suggest fluctuations rather than continuous growth, implying that local socioeconomic dynamics, enforcement policies, and cultural contexts may influence substance use differently[24,25]. This variation underscores the need for context-sensitive prevention strategies that address the specific vulnerabilities of youth populations in different environments.

5.2. Observed psychiatric manifestations and diagnostic challenges

Both professional and familial perspectives highlighted severe psychiatric symptoms associated with methamphetamine use, including paranoia, hallucinations, aggression, agitation, sleep disturbance, and enduring cognitive deficits. These findings echo prior research that demonstrates the neurotoxic impact of methamphetamine on frontal and limbic systems, resulting in enduring impairments even after cessation[26]. Of particular importance was the difficulty clinicians described in differentiating methamphetamine-induced psychosis from primary psychotic disorders, especially schizophrenia. This diagnostic ambiguity is well documented in the literature, with overlapping symptom profiles often necessitating longitudinal monitoring and laboratory confirmation[27]. Family members added depth to this picture, illustrating how stigma and concealment of substance use contributed to delays in accurate diagnosis. Although the current findings support the prevailing view that methamphetamine dependence can lead to long-lasting psychiatric and cognitive disturbances, some studies have reported partial remission after prolonged abstinence, suggesting that neurotoxicity may not always be irreversible[26,27]. This discrepancy highlights the heterogeneity of clinical outcomes and reinforces the importance of early diagnosis, multidisciplinary follow-up, and comprehensive post-recovery care.

5.3. Social and environmental determinants ınfluencing addiction trajectories

A major theme across psychiatrist and family accounts was the role of structural and environmental forces in shaping addiction pathways. Economic instability, unemployment, and uncertainty about the future were consistently described as precursors to methamphetamine dependence. This finding resonates with earlier studies linking socioeconomic stressors to higher rates of stimulant misuse[28]. The domestic environment was also shown to be pivotal: the presence of maternal depression, unresolved family conflicts, and the absence of consistent support contributed to the younger son's vulnerability. This is consistent with the broader literature that recognizes intergenerational transmission of mental health risks and the impact of dysfunctional family dynamics on substance use trajectories[29]. However, while many studies highlight family and economic stressors as central[28,29], others argue that peer influence, migration pressures, and urban anonymity may play

an equally significant role in shaping young people's risk behaviors[28,30]. Moreover, the current study contributes to this discussion by emphasizing the intersection of global crises, media exposure, and digital overuse as amplifiers of psychological distress and maladaptive coping.

Global crises and digital environments further compounded vulnerability. Clinicians noted that geopolitical instability, climate-related disasters, and the psychosocial consequences of the COVID-19 pandemic heightened patients' distress, while the family recounted how media exposure to catastrophic news exacerbated anxiety and insomnia. These observations parallel recent evidence linking excessive social media use with heightened psychological distress and maladaptive coping, including substance misuse[30]. Both clinicians and family members agreed that methamphetamine was often used as a temporary escape from this digital and global pressure, suggesting that prevention programs should not overlook the intersection between behavioral and chemical addictions.

Finally, stigma and cultural taboos emerged as significant barriers. Families may delay seeking professional support due to shame, mirroring findings that stigma remains a critical obstacle to early intervention in substance use disorders[31]. This silence perpetuated a cycle in which symptoms escalated before treatment was sought, further complicating recovery.

5.4. Approaches to treatment and prevention

In terms of intervention, psychiatrists emphasized that medication and stabilization are essential but insufficient when used in isolation. The therapeutic relationship-empathy, respect, and continuity of care-was highlighted as a crucial determinant of engagement. This is strongly supported by existing evidence indicating that psychosocial interventions, particularly contingency management and cognitive-behavioral approaches, are currently the most effective treatments for stimulant use disorders[32].

While these results align with most contemporary studies[32-35], some authors have questioned the scalability and cultural adaptability of such holistic and skill-based programs, citing practical and resource-related constraints[32,33]. This highlights the importance of tailoring interventions to local contexts and ensuring sustained policy and institutional support.

Both clinicians and the family stressed the importance of prevention beginning in adolescence and earlier. Early psychoeducation for families and young people, skill-building programs to strengthen coping strategies, and school-based interventions were identified as protective measures. These findings are consistent with public health recommendations that emphasize resilience-building and digital literacy as critical prevention tools[33].

In addition, evidence increasingly supports adjunctive interventions, such as physical activity and mindfulness-based programs, as tools to improve emotion regulation and reduce relapse[34,35]. Complementary to these, positive thinking and well-being education programs have been shown to enhance resilience and coping across all developmental stages, from early childhood to adulthood, thereby strengthening family functioning and preventing maladaptive behaviors[36,37]. Psychiatrists pointed to the importance of linking psychiatric services with psychological counseling, community resources, and socio-economic support. The family highlighted the need for structured assistance for family members, who otherwise feel isolated and overwhelmed. Recent studies further support the role of adjunctive interventions such as physical activity in improving mood regulation and reducing relapse risk, suggesting that integrated models of care are most promising[34,35]. In addition, training programs that promote positive thinking strategies aimed at fostering solution-focused approaches hold promise for strengthening coping skills among individuals of all ages-including family members, adults, and children and adolescents from early childhood onward. Such programs encourage individuals to analyze their circumstances in concrete terms and to concentrate on actionable steps

that foster personal growth. By focusing on cultivating resilience and well-being, positive thinking interventions can be implemented as early intervention psychoeducational programs across different developmental stages, with tailored modules designed for early childhood, middle childhood, adolescence, adulthood, and for parents[36,37]. Taken together, the findings point to the necessity of adopting a public mental health framework that extends beyond individual treatment to encompass social determinants and family dynamics. Preventive strategies should target adolescents and young adults with interventions that address anxiety, social isolation, and digital overuse, while simultaneously supporting families in their parenting roles. Furthermore, awareness campaigns tailored to parents and educators may help counteract stigma and promote earlier help-seeking. Overall, the findings of this study align closely with previous qualitative and mixed-method research examining stimulant use within family and clinical contexts, reinforcing the robustness of the present conclusions[24,28,31].

6. Conclusion

This study provides an integrated perspective on Methamphetamine use disorder by combining professional insights into the lived experiences of an affected family. The results demonstrate that methamphetamine use is rapidly rising among adolescents and young adults, producing severe psychiatric consequences and significant diagnostic challenges. The trajectory into dependence is deeply shaped by socioeconomic instability, family dynamics, and broader sociocultural stressors.

Although this study offers important insights into Methamphetamine use disorder by combining the perspectives of psychiatrists and a family directly affected, several limitations should be noted. The qualitative design draws on interviews with a relatively small number of clinicians and the experience of one family, which provided depth but also limited the extent to which the findings can be generalized. In addition, because the study was cross-sectional, it was not possible to follow changes in patterns of use or recovery over time. Other potential sources of bias were also considered. While researcher positionality and interpretive subjectivity are inherent to qualitative inquiry, steps were taken to minimize their impact through reflexive analysis and peer debriefing. In addition, participants' self-reported experiences might have been influenced by recall bias or social desirability effects. Recognizing these factors ensures transparency and situates the study's conclusions within its methodological boundaries.

When compared with other qualitative studies using similar parameters, the present findings demonstrate strong consistency. Previous research examining methamphetamine use from both clinical and familial perspectives similarly reported the rapid increase of use among young adults and its association with psychiatric comorbidities and socioeconomic stressors[24,28,31]. The convergence of current results with these earlier findings supports the validity and transferability of the present conclusions. Moreover, this study contributes additional depth by emphasizing how global and digital stressors further shape addiction trajectories, which has been less discussed in prior research. Even so, bringing together professional viewpoints with lived experience adds weight to the findings and supports their credibility. Future research would benefit from larger and more diverse samples, longitudinal follow-up, and the inclusion of individuals in recovery to capture a broader spectrum of perspectives. Such efforts would complement the present study and provide a more comprehensive foundation for clinical and public health strategies.

Ultimately, Methamphetamine use disorder is best understood as a collective challenge, silently advancing through clinical symptoms, social fractures, and familial suffering. Addressing it demands not only clinical innovation but also social solidarity and systemic reform. By situating addiction within the broader context of environment and social psychology, this study offers a framework for preventive and therapeutic strategies aimed at safeguarding both individual and community well-being. Effective treatment requires more

than pharmacological stabilization. **Building therapeutic relationships grounded in empathy, implementing early intervention strategies, enhancing coping capacities, and actively involving families in recovery efforts** are all crucial steps in supporting recovery. At the same time, Methamphetamine use disorder cannot be addressed by medical care alone. Coordinated, community-based strategies that link healthcare with education and social support are needed. Tackling stigma and encouraging more open discussion about addiction are equally important to make it easier for people to seek help and to lessen the strain on families.

In sum, this study highlights that methamphetamine dependence is more than a neuropsychiatric condition; it is also shaped by social and cultural realities. Effective and lasting recovery can only be achieved when treatment targets not just the clinical symptoms but also the wider context in which addiction develops.

Conflict of interest

The author declares no conflict of interest.

References

1. Cruickshank, C. C., & Dyer, K. R. A review of the clinical pharmacology of methamphetamine. Addiction Research & Theory, 2009, 104(7): 1085–1099. https://doi.org/10.1111/j.1360-0443.2009.02564.x
2. Darke, S., Duflou,J, & Torok,M.. Comparative toxicology of fatal methadone and heroin toxicity cases. Drug and Alcohol Dependence, 2010, 6(1): 1-6. https://doi.org/10.1016/j.drugalcdep.2009.07.014
3. United Nations Office on Drugs and Crime (UNODC). World Drug Report 2023. United Nations Publications, 2023.Available at: https://doi.org/10.18356/9789210028233c001 (Accessed on 09.09.2025)
4. Trucco, E. M. A review of psychosocial factors linked to adolescent substance use. Pharmacology, Biochemistry and Behavior, 2020, 196: 172969. https://doi.org/10.1016/j.pbb.2020.172969
5. Conway, F. N., Samora, J., Brinkley, K., Jeong, H., Clinton, N., & Claborn, K. R. Impact of COVID-19 among people who use drugs: A qualitative study with harm reduction workers and people who use drugs. Harm Reduction Journal, 2022, 19: 72. https://doi.org/10.1186/s12954-022-00653-1 https://www.tandfonline.com/doi/full/10.1080/09687637.2021.1891945
6. Dubey, M. J., Ghosh, R., Chatterjee, S., Biswas, P., Chatterjee, S., & Dubey, S. COVID-19 and addiction. Diabetes & Metabolic Syndrome: Clinical Research & Reviews, 2020, 14(5): 817–823. https://doi.org/10.1016/j.dsx.2020.06.008
7. Sharma, B., Kumar, P., & Sharma, P. Smartphone is it "behaviour addiction or substance abuse disorder": a review to find chemistry behind. International Journal of Pharmaceutical Sciences and Research, 2021,12(1), 1000-1008. http://dx.doi.org/10.13040/IJPSR.0975-8232.12(1).1000-08
8. Maina, G., Ogenchuk, M., Phaneuf, T., & Kwame, A. "I can't live like that": The experience of caregiver stress of caring for a relative with substance use disorder. Substance Abuse Treatment, Prevention, and Policy, 2021, 16: 11. https://doi.org/10.1186/s13011-021-00344-3
9. Gronholm, P. C., Kline, S., Lamba, M., Lempp, H., Mahkmud, A., Cano, G. M., & Sunkel, C. Exploring perspectives of stigma and discrimination among people with lived experience of mental health conditions: A co-produced qualitative study. EClinicalMedicine, 2024,70, 102499. https://www.thelancet.com/journals/eclinm/article/PIIS2589-5370(24)00088-9/fulltext
10. Hawke, L. D., Sheikhan, N. Y., Roberts, S., & McKee, S. Research evidence and implementation gaps in the engagement of people with lived experience in mental health and substance use research: a scoping review. Research Involvement and Engagement, 2023, 9(1), 32. https://doi.org/10.1186/s40900-023-00442-5
11. Edinoff, A.N., Kaufman, S.E., Green, K.M., Provenzano, D.A., Lawson, J., Cornett, E.M. & Kaye, A.D. Methamphetamine use: a narrative review of adverse effects and related toxicities. Health Psychology Resource, 2022,10(3):38161. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9476235/
12. Liu, G. X. H., Tayebi, M., Bristow, B., Wang, J., Lin, Y., Newburn, G.,& Scadeng, M. How does methamphetamine affect the brain? A systematic review of magnetic resonance imaging studies. medRxiv, 2025, 02. https://doi.org/10.1101/2025.02.11.25322099
13. Whitesell, M., Bachand, A., Peel, J., & Brown, M. Familial, social, and individual factors contributing to risk for adolescent substance use. Journal of addiction, 2013,1:579310. http://dx.doi.org/10.1155/2013/579310 Journal of Social Issues, 2021, 77(4): 913–933. https://doi.org/10.1111/josi.12449

14. Morse, S. C., Fockele, C., Huynh, L. N., Zatzick, A., & Whiteside, L. K. (2023). A qualitative study of people who use methamphetamine during the early COVID-19 pandemic to inform future ED harm reduction strategies. International Journal of Emergency Medicine, 2023, 16(1): 30. https://doi.org/10.1186/s12245-023-00505-0
15. Kuss, D. J., & Pontes, H. M. Internet addiction. Hogrefe Publishing, 2018, pp.5-12.
16. Glasner-Edwards, S., & Mooney, L. J. Methamphetamine psychosis: epidemiology and management. CNS Drugs, 2014, 28(12): 1115-1126. https://doi:10.1007/s40263-014-0209-8.
17. Kalhovde, A. M., & Kitzmüller, G. Family caregivers' trajectories of distress while caring for a person with serious mental illness. Qualitative Health Research, 2024, 34(1-2):154-165. https://doi.org/10.1177/10497323231203627
18. Livingston, J. D., Milne, T., Fang, M. L., & Amari, E. (2012). The effectiveness of interventions for reducing stigma related to substance use disorders: a systematic review. Addiction, 2012,107(1), 39-50. https://doi.org/10.1111/j.1360-0443.2011.03601.x
19. United Nations Office on Drugs and Crime (UNODC). World Drug Report 2024. United Nations Publications, 2024. Available at: https://www.unodc.org/unodc/data-and-analysis/world-drug-report-2024.html (Accessed on 09.09.2025)
20. Xing, D.G., Mohiuddin, F., Bhuiyan, M.S., Hossain, M.I., Al-Yafeai,Z., Faisal, A.S.M, Goeders, N.E.,& Bhuiyan, M.A.N. Prevalence and patterns of methamphetamine use and mental health disparity in the United States. Nat Ment Health,2024 ,2:951-959. https://doi.org/10.1038/s44220-024-00282-6
21. Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. Thematic analysis: Striving to meet the trustworthiness criteria. International Journal of Qualitative Methods, 2024,16(1): 1609406917733847 https://doi.org/10.1177/1609406917733847
22. Brinkmann, S., & Kvale, S. Doing Interviews (2nd ed.). SAGE Publications, 2018. https://us.sagepub.com/en-us/nam/doing-interviews/book259685
23. Braun, V., & Clarke, V. Thematic analysis: A practical guide. SAGE Publications, 2022. https://us.sagepub.com/en-us/nam/thematic-analysis/book275202
24. Rockhill, C. M., Ramtekkar, U., Becker, T. D., Greenhill, L., Hayek, M., Vasa, R. A.,& Walter, H. J. Clinical practice guideline: Assessment and treatment of adolescents and young adults with substance use disorders and problematic substance use. Journal of the American Academy of Child & Adolescent Psychiatry,2025, JAAC 5256. https://doi.org/10.1016/j.jaac.2025.08.006
25. Son, Y., Hong, S., Yim, Y., Kim, S., Lee, H., Lee, K.,& Kang, J. Global prevalence of cannabis and amphetamine/methamphetamine use among adolescents in 47 countries: a population-based study from WHO database. World Journal of Pediatrics, 2025,21(3), 291-305. https://doi.org/10.1007/s12519-025-00883-w
26. Hemphill, K., Tierney, S., Tirschwell, D., & Davis, A. P. A review of methamphetamine use and stroke in the young. Frontiers in Neurology, 2024,15, 1397677. https://doi.org/10.3389/fneur.2024.1397677
27. Wearne, T. A., & Cornish, J. L. A comparison of methamphetamine-induced psychosis and schizophrenia: A review of positive, negative, and cognitive symptomatology. Frontiers in Psychiatry, 2018, 9: 491. https://doi.org/10.3389/fpsyt.2018.00491
28. Belfiore, C. I., Galofaro, V., Cotroneo, D., Lopis, A., Tringali, I., Denaro, V., & Casu, M. A multi-level analysis of biological, social, and psychological determinants of substance use disorder and co-occurring mental health outcomes. Psychoactives, 2024, 3(2):194-214. https://www.mdpi.com/2813-1851/3/2/13#
29. Sevari, K., & Terahi, R. Comparison of family functioning, social support and irrational beliefs in addicted addicts undergoing compulsory treatment and self-reported addicts in treatment centers. Social Psychology Research, 2024, 13(52), 85-98. https://doi.org/10.22034/spr.2024.432563.1900
30. Khalaf, A. M., Alubied, A. A., Khalaf, A. M., & Rifaey, A. A. The impact of social media on the mental health of adolescents and young adults: A systematic review. Cureus, 2023, 15(8): e42990. https://doi.org/10.7759/cureus.42990
31. El Hayek, S., Foad, W., De Filippis, R., Ghosh, A., Koukach, N., Mahgoub Mohammed Khier, A.,& Shalbafan, M. (2024). Stigma toward substance use disorders: A multinational perspective and call for action. Frontiers in Psychiatry, 2024,15, 1295818. https://doi.org/10.3389/fpsyt.2024.1295818
32. Magill, M., Martino, S., & Wampold, B. E. Defining the therapeutic relationship in the context of alcohol use, other drug use, and behavior change: Principles and practices. Journal of Substance Use and Addiction Treatment, 2024,163, 209398. https://doi.org/10.1016/j.josat.2024.209398
33. Becker, T. D., Castañeda Ramirez, S., Bruges Boude, A., Leong, A., Ivanov, I., & Rice, T. R. Interventions for prevention and treatment of substance use in youth with traumatic childhood experiences: a systematic review and synthesis of the literature. European Child & Adolescent Psychiatry, 2024, 33(10), 3419-3438.
34. Remskar, M., Western, M. J., Osborne, E. L., Maynard, O. M., & Ainsworth, B. Effects of combining physical activity with mindfulness on mental health and wellbeing: Systematic review of complex interventions. Mental health and physical activity, 2024, 26:100575. https://doi.org/10.1016/j.mhpa.2023.100575

35. Marx, W., Manger, S. H., Blencowe, M., Murray, G., Ho, F. Y. Y., Lawn, S.,& O'Neil, A. Clinical guidelines for the use of lifestyle-based mental health care in major depressive disorder: World Federation of Societies for Biological Psychiatry (WFSBP) and Australasian Society of Lifestyle Medicine (ASLM) taskforce. The World Journal of Biological Psychiatry, 2023, 24(5):333-386. https://doi.org/10.1080/15622975.2022.2112074
36. Gür, Ç., & Eser, B. Who? What? How? From a standard teacher meeting to a preschool positive thinking project. SAGE Open, 2022, 12(4), 1–18. https://doi.org/10.1177/21582440221133998
37. Gür,Ç. İyi oluş ve pozitif düşünme [Well-being and positive thinking]. In Bebeklikten ergenliğe iyi oluş: Pozitif düşünme eğitimi [Well-Being from Infancy to Adolescence: Positive Thinking Education], 3rd edition (Ed.Ç.Gür), Anı Publishing. 2023.pp:1-52