

Research Article

Implementing the CHILD Intervention for Living Drug-Free: A Global Mixed Methods Survey

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Abstract

There is an urgent need to reduce the growing global problem of children under 12 years old using drugs. The CHILD Interventions for Living Drug-Free (CHILD) curriculum has been developed and trained around the world to help practitioners treat children between the ages of 4-12 for drug use problems. This mixed-methods study aimed to determine the barriers and benefits for practitioners in implementing the CHILD intervention in countries around the world. N=109 participants completed a survey from 30 different countries with quantitative and open-ended written response options. These online survey results show that drug use, including synthetic drugs, is widespread among children. Participants reported high concern about child drug use in their communities with 74% citing it as the most important priority for families and policymakers to address. A total of 71% of respondents reported using some skills of the CHILD curriculum to help children or families always or usually, which reflects the utility and applicability of the training and its materials. CHILD implementation barriers included awareness and understanding, access to resources, cultural barriers, financial constraints, staff training, and program integration. The survey participants recommended ways to further upscale CHILD's implementation. Recommendations included raising awareness about child substance use disorders vulnerabilities, building partnerships and increasing specialized facilities for children with SUD and integrating the CHILD curriculum into educational systems and national standards. Finally, a listening group with 75 clinicians and policy implementers exploring how CHILD could be implemented in the USA yielded eight qualitative themes that highlighted the need for CHILD training and engaging in advocacy efforts to influence policy and secure support from governmental and non-governmental entities. Taken together, these results provide needed data to guide the tailoring of CHILD for different settings including the USA where children can be identified, assessed, and treated for drug use problems.

INTRODUCTION

Worldwide, an ever-growing population of children 12 years old or younger are using psychoactive drugs [1-3]. This trend is evident across various regions, highlighting significant implications for the developmental health and wellbeing of children. A meta-analysis of studies that focused on drug use among children in street circumstances highlights the wide variation in prevalence rates of child drug use across various regions in the world. In countries such as Brazil, lifetime drug use among children in street circumstances is almost universal (92%) [3]. In Nepal, 88% of surveyed children aged 5-17, half of which were living in street circumstances, reported to be addicted to shoe glue sniffing [4]. Among those reporting glue sniffing, 59% started glue-sniffing within the past year, and 54% were sniffing glue more than five times a day. Nearly half

of the children sniffing glue reported experiencing health complications such as headaches, chest pain, and stomach aches [4]. Similar trends have been observed in Sudan, where nearly 89% of surveyed children living in street circumstances reported drug use, primarily glue sniffing (87%) and tobacco smoking (67%) [5].

While any degree of drug use in children is cause for concern, the extent of children using drugs such as opium and heroine in Afghanistan, Bangladesh, India, and Pakistan has raised urgent calls for a prevention and treatment response [6-9]. For example, among children in India accessing treatment for drug use problems, children between 7-12 years old commonly report solvents (39%), cannabis (37%) and opioid (18%) use at treatment entry [6]. Further, 50% of the children report using multiple drugs at treatment entry and nearly 80% reported illegal

activities. The children also reported little contact with their parents or family who themselves have histories of drug use in half of the cases [6].

Urgent need for effective drug prevention and treatment were also heard in Peru, Brazil, Argentina, Ecuador, Uruguay, Paraguay, Central America, where cocaine and crack cocaine were documented to be used by young children [10-13]. For example, a study in Brazil found that 60% of children 8-17 years living in street circumstances reported using drugs within the past year and 40% of these children considered themselves to have a substance use disorder [13].

Research on drug use among children younger than 12 in the USA is limited, in part due to the fact that the National Survey of Drug Use and Health only begins collecting data on children aged 12 years and older. Limited data surveying children ages 12 and younger in the USA regarding drug use provides valuable insights into this issue. For example, the Texas School Survey on Drug and Alcohol reported that 4th graders engaged in lifetime use of alcohol drinking (13%), inhalant use (11%), nicotine products (3%), and cannabis (1%) [14]. Similarly, according to a longitudinal study on early-onset drug use, 21% of the 65 children surveyed reported having initiated drug use by age 12, and such early onset of drug use was positively correlated with one or more risk factors [15]. Further research on elementary age drug use in the USA is needed to assess accurate prevalence, especially given the rapid rise in fentanyl related exposures and deaths among children 12 and younger [16].

Taken together, these findings highlight the need for designing early prevention and intervention programs tailored to the unique developmental and social needs of young children. The Child Intervention for Living Drug-Free (CHILD) curriculum has been developed and trained around the globe to help providers implement both prevention and treatment interventions to children between the ages of 4-12 for drug use problems [17,18]. Now that the CHILD curriculum is in active use across the world, the aims of the present study were to: 1) survey practitioners trained to implement CHILD to determine the extent to which drug use is seen by practitioners and which types of drugs are being used among children 4-12 years old, 2) determine the degree to which CHILD is used in practice among those trained to use it and, 3) determine the barriers to CHILD's use among those in the USA who may want to implement it but have yet to receive such training. By addressing these gaps, this study seeks to inform future implementation of the CHILD curriculum and contribute to the broader discussion of early prevention and intervention strategies for child drug use.

MATERIALS AND METHODS

Institutional Review Board

This study was approved with exempt status by the University of North Carolina Institutional Review Board.

Survey Design

This mixed methods study contains both a written survey with quantitative and qualitative data accompanied by a listening session providing only qualitative data. The listening session yielded qualitative data for analysis of themes regarding the needs for tailoring the CHILD curriculum for implementation in different settings.

Participants

N=415 people provided data to support the aims of the study. Participants were eligible to receive the written Survey Monkey quantitative and qualitative survey if they had completed at least one CHILD curriculum training course. As such, n=340 individuals met this criteria with n=280 people receiving the survey in English and n=60 people receiving the survey in Spanish. The listening session included n=75 people with knowledge of the CHILD curriculum in the USA based on a one-hour summary presentation of the materials.

Written Survey Data Collection

The written survey contained 19 questions designed in Survey Monkey and focused on the extent of child drug use in the respondent's community and the extent to which the CHILD curriculum is useful "off the shelf." Specific recommendations were requested for making CHILD fully useful in the respondent's work with children and parents. The written survey was developed in Survey Monkey in both English and Spanish. The survey questionnaire was sent out on July 8th, 2024 and then July 15th, 2024 for Spanish speaking individuals. The survey was left open for three weeks with weekly reminders sent to those who had yet to complete it. The survey results were then analyzed to inform subsequent focus group questions.

Listening Session Data Collection

The second part of this study involved completing a listening session that was conducted with professionals who either provide children's health services or who implement child service related policy in the USA and convened as a part of a national working group for addressing alcohol and drug use among women and girls. A set of focus group questions were asked about how CHILD could be used in different settings in the USA. A total of 75

clinicians and policy implementers attended this meeting. Data were collected through a virtual meeting platform with video, sound, and chat functions. The transcript was used for data analysis.

Data Analysis

The quantitative data reported are cross-sectional descriptive statistics. Descriptive statistics included calculating frequencies and percentages for all categorical variables and describing continuous variables with means and ranges. The listening session was recorded and machine transcribed. The transcript was reviewed for accuracy. Grounded Theory informed the approach to the interview guide and analysis. We used line by line coding for the transcript and assigned each quotation or chunk of text a code corresponding to one of our general topics of inquiry. We then read all of the quotations in each large code category and continued the analysis by dividing some of the codes into smaller sub-codes, adding some new codes that emerged from the data and looking for themes within and across the codes. We then looked at themes from the transcript and compared them to look for similarities and differences by written survey response.

RESULTS

N=415 people had the opportunity to answer the survey. Of those survey recipients, n=109 completed the survey, a response rate of 26.3%.

Characteristics of Survey Responders

Table 1 shows that respondents worked in 30 different countries in a variety of different continents, including Africa, Asia, North America and South America. The participants reported a mean of 14 years (range of 1 to 34 years) of working in the field of substance use disorder treatment, prevention or recovery. Most (80%) participants reported completing one or more CHILD courses, with 53% reporting completing six or seven CHILD courses.

Table 1: Diversity of Continents Where CHILD Survey Respondents Work

Continent Where the Respondent Works?	Response %	Count
Africa	47.7%	52
Antarctica	0.0%	0
Asia	34.8%	38
Europe	0.0%	0
North America	5.5%	6
Oceania	0.0%	0
South America	8.3%	9
Missing	3.7%	4
Total	100.0%	109

Reported Observations of Children Using Drugs Between the Ages of 4-12 Years Old

Number of children seen using drugs and the frequency of respondents observing child drug use

Participants reported that in the past 12 months, they estimated seeing an average number of 46 (Range 0-1,440) children between the ages of 4-12 years using drugs. Table 2 shows the summary of responses to the question asking about the past 12 months and how often respondents observe children between the ages of 4-12 using drugs of any type in their community. Overall, the data were evenly distributed with the most frequent answer being a few times a month (23%) and the least frequent answer being once a month (5%).

Frequency and types of drugs used by children

Table 2 shows the frequency of respondents observing or hearing of children between the ages of 4-12 using different types of drugs. Among the most frequently reported drug was cannabis where the most common answer was few times a week (28%). For the other drugs, the most common answer was less than once a month.

There were 80 responses given to the question regarding other drugs that respondents reported being used by children between 4-12 years old in their community in the last 12 months. Table 3 shows the full list, with commonly reported drugs being alcohol, nicotine products, various solvents/inhalants and khat. Quotes also show a wide variety of unique drugs (e.g., pit toilet fumes, house plants, dried lizard poop) as well as poly-drug use by children.

Children using drugs are a top priority

Overall, participants endorsed drug use among children between the ages of 4 to 12 years old as the most important priority (74%) and another 25% reported it as a top priority, but not the most important. Thus, there is a strong consensus that this issue deserves continued attention.

CHILD is often used in clinical practice

A total of 71% of respondents reported that they use some aspect of the CHILD curriculum to help children or families always or usually, which reflects the utility and applicability of the training and its materials.

Summary of themes regarding how respondents are using their training in CHILD in the work that they do

Based on the information provided, several qualitative

Table 2: Frequency of respondents observing or hearing of children between the ages of 4-12 using drugs in their community in the past 12 months

Frequency of respondents observing or hearing of children using...	Any Use	Inhalants*	Stimulants**	Cannabis	Medication#	Opioids^
Every day	18%	16%	9%	18%	5%	3%
A few times a week	22%	19%	15%	28%	9%	4%
About once a week	12%	8%	6%	5%	5%	2%
A few times a month	23%	16%	16%	21%	20%	7%
Once a month	5%	7%	3%	11%	13%	6%
Less than once a month	18%	33%	51%	17%	48%	77%
Total	100%	100%	100%	100%	100%	100%

Notes: *inhalants (like glue, paint thinner, paint huffing), **stimulants (cocaine, paco, base cocaine, meth, speed), #medications like sedatives, sleeping pills, benzos, and tranquilizers, ^opioids (fentanyl, opium, heroin etc.)

Table 3: Example quotes of participants regarding other types of substances children 4-12 are using in their community in the past 12 months.

• Used engine oil from street children
• Unconventional drugs like sniffing vapour from pit toilet, drinking akuskura (mixture of herbs and cannabis) etc
• Inhalants and cannabis used in street children's mostly, and school children's are using vapes, E cigarettes and oxcy shoots
• Children in our area commonly use heroin and alcohol, as well as marijuana, due to their widespread availability. Even though these drugs are illegal, children can easily obtain them
• In my community, Substance such as Khat popularly know as Mugukaa and combination of Glue/thinner inhalants are most common among children under 14 years
• cannabis, ice, crystal, alcohol, tranquilizers
• Cool lip (a type of stimulant) energy drink high on caffeine
• Yes, children in primary schools consume local drugs, plants that grow around houses, tapioca, okok, socodail which is an over-the-counter drink with the same effects as cannabis.
• Synthetic cannabis, dried lizard poop, inhalant(petrol/fuel, methane from pit latrine)
• Glue, cats, sniffing chafis, kubel,
• Nyaope, when we went to East London - Eastern Cape for program.
• Miraa and locally brewed alcohol
• Alcohol, Banga, Chicha, Marijuana, Cigarette...
• Electric cigarette/ tobacco/ chocolate types/ dancing tables
• Khat (the leaves themselves) tobacco by products e.g chavis,kuber, pouches
• Alcohol, vape, cigarettes, betel nuts mixture (Moma).
• Extasis, Bembo (cocaina mezclado con pasta basica)
• Desde hace 2 años vengo trabajando fuertemente en prevención sobre Uso Problemático de Internet, dispositivos electrónicos y redes sociales. Hay una enorme preocupación de la comunidad educativa y por parte de madres/padres y cuidadores que registran las enormes dificultades que le causa a la salud mental de sus hijos/as el uso problemático que hacen sus hijos/as a diario de pantallas/smartphones. Muchos padres/padres/educadores habla de la "adicción" de sus hijos/as a las pantallas y no cuentan con herramientas para acompañar una crianza saludable. Madres/padres y educadores temen que la ansiedad e impulsividad que les genera a sus hijos/as el uso de pantallas se traduzca en un inicio temprano en el consumo de alcohol y otras drogas. English translation- For 2 years I have been working hard on prevention of Problematic Internet Use, electronic devices and social networks. There is enormous concern on the part of the educational community and on the part of mothers/fathers and caregivers who register the enormous difficulties caused to the mental health of their children by the problematic use that their children make on a daily basis of screens/smartphones. Many mothers/fathers/educators talk about their children's "addiction" to screens and do not have tools to support healthy parenting. Mothers/fathers and educators fear that the anxiety and impulsivity that screen use generates in their children will translate into an early start in the consumption of alcohol and other drugs.

themes emerged related to how the CHILD training and intervention strategies were used in practice. As shown in Table 4, eight main qualitative themes emerged. First is the Application of Training in Clinical Practice. This theme highlights the direct application of the CHILD training in real-world settings, and demonstrates how CHILD helped to improve clinical outcomes for children. The second theme is the Utilization of the "Suitcase for Life." The "Suitcase for Life" was noted for its practicality in providing strategies and skills for working with children affected by drug use problems. Third is the theme of Comprehensive Assessment and Individualized Treatment. Within this theme respondents emphasized the importance of how CHILD provides tailored approaches to treatment, ensuring the unique needs of each child are met. Fourth is the theme of Family and Community Engagement. This theme underscores the significance of how respondents

used CHILD in engaging families in the treatment process and educating them on effective parenting strategies. The fifth theme is the spirit of Interdisciplinary Collaboration. This theme shows how CHILD training was used to foster a collaborative approach involving various professionals. The sixth theme is Advocacy and Policy Change. This theme shows the CHILD training being used to inform advocacy efforts to influence policy in favor of child-friendly approaches to treatment. The seventh theme is Educational Initiatives and Awareness Raising. This theme underscores how CHILD was used in community education and awareness-raising initiatives to prevent drug use among children. Finally, there is the theme of Cultural Adaptation of Curricula. Within this theme respondents illustrated how they tailor training materials to fit the local context and cultural nuances, ensuring effectiveness.

Table 4: Summary of Themes: Respondents are Using Their Training in CHILD in Their Work

Theme	Quote	Elaboration
Application of Training in Clinical Practice	"Since receiving training on child substance use disorder (SUD) treatment, I have applied my knowledge and skills in several ways... I am committed to continuing to apply my knowledge and skills to make a positive impact in the lives of children and families affected by SUD."	This theme highlights the direct application of the CHILD training in real-world settings, and demonstrates how CHILD helped to improve clinical outcomes for children.
Utilization of the "Suitcase for Life"	"The suitcase for life has given me a very practical approach to teaching clients various skills and addressing other issues among children."	Thus, the "Suitcase for Life" tool is recognized for its practicality in providing strategies and skills that are crucial for working with children affected by substance use problems.
Comprehensive Assessment and Individualized Treatment	"Conducted comprehensive assessments to identify risk factors and signs of SUD in children and adolescents... Developed and implemented individualized treatment plans."	Respondents emphasized the importance of how CHILD provides tailored approaches to treatment, ensuring the unique needs of each child are met.
Family And Community Engagement	"I did teach parenting skills to parents and caregivers and speak on the importance of positive parenting helping children to be resilient."	This theme underscores the significance of how they used CHILD in engaging families in the treatment process and educating them on effective parenting strategies.
Interdisciplinary Collaboration	"Collaborated with multidisciplinary teams, including medical professionals, therapists, and social workers, to ensure comprehensive care."	This theme shows how CHILD training was used to foster a collaborative approach involving various professionals.
Advocacy and Policy Change	"Moreover, as a member of the law amendment committee, I was recommended to incorporate child issues in the law. And finally, government incorporated child issues in the law."	This theme shows the CHILD training being used to inform advocacy efforts to influence policy in favor of child-friendly approaches to treatment.
Educational Initiatives and Awareness Raising	"We opened a listening center for the support and care of child drug users. We raise awareness in primary schools in the city of Yaoundé."	This example shows how CHILD was used in community education and awareness-raising initiatives to prevent substance use among children.
Cultural Adaptation of Curricula	"I have adapted the training received to the work system where I work, some courses in the curriculum..."	Respondents illustrated how they tailor training materials to fit the local context and cultural nuances, ensuring effectiveness

Summary of themes as to the biggest barriers respondents face in fully implementing CHILD in their work

To balance the understanding of the successes, questions were also asked about the barriers to implementing CHILD. Table 5 provides each theme, an example quote, and an elaboration of what the theme means. The first theme was Awareness and Understanding and within this theme was the recognition that a lack of awareness and understanding of the program among parents and community members can hinder participation. Educational initiatives are needed to explain the benefits and importance of CHILD to ensure that families are informed and engaged. The second theme for barriers to implementing the CHILD curriculum was Access to Resources. Many participants mentioned limited access to resources, including transportation and healthcare facilities as barriers. Families and their children may struggle to attend appointments or access supportive services necessary for the program's success. The third theme centered around Financial Constraints limiting the use of the CHILD curriculum. Financial constraints included potential hidden costs which can deter families from involvement (e.g., time away from work, the need to buy art supplies or other materials to replace the ones initially provided). Clear communication about costs and available support to help offset costs is essential. The fourth theme noted was Cultural Barriers. Several participants reflected that cultural beliefs and practices can affect individuals' willingness to participate in CHILD. Programs may need to adapt to differing cultural perspectives to encourage inclusivity and acceptance among diverse communities.

The fifth theme noted in barriers to CHILD implementation was Staff and Training. A number of participants stated that there was a shortage of trained personnel equipped to implement and deliver the full CHILD program effectively. Investing in training and ensuring adequate staffing can improve CHILD's execution and impact. Finally, there was the theme of Program Integration as a barrier. There can be hardships with figuring out how to integrate CHILD with existing health services. The separateness of CHILD from other services may create confusion for families looking to access the CHILD program. Developing streamlined processes and partnerships within the health system can facilitate better collaboration and ease of access.

Summary of themes in recommendations and suggestions respondents had for overcoming the barriers to CHILD implementation

Table 6 summarizes the solutions recommended by survey respondents to overcome barriers to implementing the CHILD curriculum and effectively address drug use disorders in children. Within this domain, five key themes were identified from respondents' answers. Extensive Awareness Creation was a theme underscoring the crucial importance of raising awareness about child substance use disorders and the availability of referral services in order to improve access to treatment. Next, Enhanced Collaboration and Facility Development was recommended. Building partnerships and developing specialized facilities for children with SUD are critical steps for effective treatment. Third was Comprehensive Training and Capacity Building.

Table 5: Summary of themes as to what are the biggest barriers respondents face in fully implementing CHILD in their work

Theme	Quote	Elaboration
Awareness and Understanding	"Many parents don't even know what CHILD really stands for or how it can benefit their kids."	A lack of awareness and understanding of the program among parents and community members explain the benefits and importance of CHILD to ensure that families are informed and engaged.
Access to Resources	"Getting to the clinics is tough for families without transportation."	Limited access to resources, including transportation and healthcare facilities, is a significant barrier. Families and their children may struggle to attend appointments or access supportive services necessary for the program's success.
Financial Constraints	"Even with some services being offered for free, families worry about hidden costs."	Financial concerns, including potential hidden costs associated with participating in CHILD, can deter families from involvement. Clear communication about costs and available support is essential.
Cultural Barriers	"Some community members come from backgrounds where seeking help is not the norm."	Cultural beliefs and practices can affect individuals' willingness to participate in CHILD. Programs may need to adapt to differing cultural perspectives to encourage inclusivity and acceptance among diverse communities.
Staff and Training	"We need more trained staff who truly understand the needs of childhood development."	A shortage of trained personnel equipped to implement and manage CHILD effectively adds to the challenges. Investing in training and ensuring adequate staffing can improve CHILD's execution and impact.
Program Integration	"The initiative seems disconnected from existing community health services, making it harder to navigate."	Integration with existing health services can be inadequate, creating confusion for families looking to access the CHILD program. Developing streamlined processes and partnerships within the health system

Table 6: Summary of themes of recommendations or suggestions respondents had for overcoming the barriers to CHILD implementation

Theme	Quotes	Elaboration
Extensive Awareness Creation	"Extensive awareness creation about where caregivers receive referrals to services for children with substance use disorders is needed to ensure families know where to turn for help." "Psycho-education to communities on SUD in children is essential to raise awareness and support for treatment programs."	Raising awareness about child substance use disorders and the availability of referral services is crucial for improving access to treatment. Increasing awareness among caregivers and the general public about available resources and referral pathways helps ensure that children receive timely and appropriate care.
Enhanced Collaboration and Facility Development	"Collaboration with providers of SUD treatment to develop programs and separate facilities for children with SUD will help address their unique needs." "Institutions be built for children, including dedicated treatment centers equipped with necessary infrastructure and staff."	Building partnerships and developing specialized facilities for children with SUD are critical steps for effective treatment. Collaborating with various stakeholders and developing specialized facilities ensures that children have access to tailored treatment services that meet their specific needs.
Comprehensive Training and Capacity Building	"Increase training, research, support, or workshops related to the CHILD curriculum both online and offline to ensure professionals are @well-equipped." "Training for educational staff and advocacy with the government departments are vital to integrate the CHILD curriculum into existing systems."	Providing thorough training and building the capacity of professionals are essential for effective implementation of the CHILD curriculum. Ongoing professional development and targeted training help practitioners effectively deliver the CHILD curriculum and improve their ability to address child SUD.
Policy Advocacy and curriculum Integration	"Advocate for policy review and curriculum integration in schools to ensure that substance use prevention and treatment are addressed in educational settings." "We are currently working with our government and advocating for treatment centers for children and training for staff to support the implementation of the CHILD curriculum."	Advocating for policy changes and integrating the CHILD curriculum into educational systems and national standards is crucial for broader implementation. Engaging in policy advocacy and working towards the integration of the CHILD curriculum into educational and healthcare systems helps institutionalize and sustain treatment efforts.
Contextualization and Adaptation of Materials	"Contextualize the materials to ensure they are relevant to the local cultural and developmental needs of children with substance use disorders." "Adopt and adapt the CHILD curriculum to fit the specific regional and cultural contexts where it is being implemented."	Adapting and contextualizing training materials and treatment approaches to fit local needs and cultural contexts enhances their effectiveness. Tailoring training materials and treatment approaches to local contexts ensures that they are appropriate and effective for the populations they serve.

Participants commonly recommended that providing thorough training and building the capacity of professionals are essential steps for effective implementation of the CHILD curriculum. Fourth was Policy Advocacy and curriculum Integration. Within this theme is the idea that advocating for policy changes and integrating the CHILD curriculum into educational systems and national standards is crucial for broader implementation. Finally, the theme of Contextualization and Adaptation of Materials emerged. Adapting and contextualizing training materials and treatment approaches to fit local needs and cultural contexts enhances their effectiveness.

Summary of a listening session with policy implementers and providers of children's services in the USA.

Table 7 shows the summary data regarding responses to open-ended questions about how CHILD could be used in different settings in the USA. Eight qualitative themes emerged. First was the theme of Resource and Funding Optimization which noted that addressing limited resources involves actively seeking external funding through grants and partnerships, as well as advocating for government support. Effective resource allocation ensures the establishment and sustainability of specialized facilities

Table 7: Summary of themes of recommendations or suggestions respondents had for CHILD implementation in the USA

Theme	Quotes	Theme Description
Resource and Funding Optimization	• “Seek grants, partnerships, and collaborations to secure funding.” • “Funding will help implement child-oriented projects—Advocacy with government for resources allocation.” • “A specialized hospital for children and youths should be built by the government and other non-Governmental Organizations to help this population of drug users.”	Securing and utilizing resources effectively is crucial for establishing and maintaining child-focused treatment programs.
Training and Capacity Building	• “Provide regular training sessions, workshops, and conferences.” • “Offer mentorship programs, coaching, and supervision.” • “Increase training, research, support, or workshops related to the CHILD curriculum both online and offline.” • “Training for educational staff, advocacy with the Ministry of Education and the Ministry for Women and the Family.”	Comprehensive training and ongoing professional development are essential to equip practitioners with the necessary skills for treating children with SUD.
Enhancing Collaboration and Communication	• “Establish regular multidisciplinary team meetings.” • “Encourage open communication and active listening.” • “Partner with organizations that work in the field of addiction and children rescue centers.” • “Collaboration with providers of SUD treatment to develop programs and separate facilities for children with SUD.”	Building strong, multidisciplinary teams and fostering open communication are necessary for a coordinated approach to child SUD treatment.
Addressing Stigma and Raising Awareness	• “Organize community events, awareness campaigns, and educational programs.” • “Create awareness and sensitize around the subject.” • “Psycho-education to communities on SUD in children.” • “Influence government on Policies to enhance treatment for children/teens.”	Tackling stigma and increasing public awareness about child substance use problems can improve engagement and support for treatment programs.
Developing Specialized Facilities and Programs	• “Establish centers that would take care of children with substance use problems.” • “Develop specialized rehabilitation centers for children with age-specific needs.” • “A community-based center that is well-known and accepted by parents and accessible for walk-ins.”	Establishing dedicated centers and specialized programs tailored to the needs of children with SUD is vital for effective treatment.
Improving Access to Evidence-Based Interventions	• “Stay updated on best practices and research.” • “Adapt evidence-based models like CHILD to suit local needs.” • “Offer training on evidence-based interventions like MI, CBT, and FFT.”	Ensuring access to and adapting evidence-based interventions for local contexts can enhance treatment effectiveness.
Advocacy and Policy Influence	• “Advocate for policy review and curriculum integration in schools.” • “Work with CMS and state Medicaid to develop billing and reimbursement systems for children’s SUD treatment.” • “Persuade key people, including health personnel, to provide the conditions for training and implementation.”	Engaging in advocacy efforts to influence policy and secure support from governmental and non-governmental entities is critical for the advancement of child SUD treatment.
Creating Family-Centered and Trauma-Informed Approaches	• “Offer flexible, family-centered, and trauma-informed services.” • “Provide family psycho-education sessions.” • “Encourage family engagement and support.”	Implementing family-centered and trauma-informed care strategies can enhance client engagement and treatment outcomes.

for children. Second was the theme of Training and Capacity Building which suggested that it is crucial to implement regular and specialized training sessions for professionals. The third theme was Enhancing Collaboration and Communication by creating structured communication channels among various stakeholders and establishing partnerships to enhance the collective response to child SUD. Fourth was the theme of Addressing Stigma and Raising Awareness by conducting public awareness campaigns and community education to shift perceptions and encourage supportive attitudes towards child SUD treatment. Fifth was the theme of Developing Specialized Facilities and Programs by equipping specialized facilities

that cater specifically to children’s needs, including educational and recreational components. The sixth theme was Improving Access to Evidence-Based Interventions by staying informed about best practices and adapt interventions to the specific needs of the local population. Seventh was the Advocacy and Policy Influence to lead to policy changes that support the implementation and funding of child SUD treatment programs, ensuring they are integrated into broader health and education systems. The final theme was Creating Family-Centered and Trauma-Informed Approaches that are sensitive to trauma and inclusive of family involvement, which can improve treatment adherence and effectiveness. By focusing on

these themes, stakeholders can address various barriers to the implementation of effective child SUD treatment programs and improve outcomes for affected children.

DISCUSSION

The aim of this study was to determine the barriers and benefits for treatment providers in implementing the CHILD intervention in countries around the world. To the best of our knowledge, this is the first time an intervention has been created, piloted and disseminated around the world to train professionals in how to identify, assess, and treat substance use disorders in children under the age of 12 using age-appropriate interventions and methodologies. The fact that 340 people were offered the opportunity to answer the survey based on their documented completion of at least one CHILD course speaks to the breadth of the dissemination of the training curriculum. Among those who responded to the survey, the high rate of respondents (71%) reporting that they use some aspect of the CHILD curriculum to help children or families always or usually, is a positive indication of the utility and applicability of the training and its materials. Such a finding complements the previous study showing that the CHILD training curriculum yields significant ($p < .001$) and sustained improvement in knowledge in all six courses [19]. Further, a survey response rate of 26.3% in a sample in less than 500 people, is both typical for unpaid on-line surveys and is considered to yield reliable results [20,21].

The survey results indicated that drug use among young children was both common and a top priority to address in the communities of respondents. The types of psychoactive substances used were similar to those reported in the child-focused literature that include highly accessible drugs like cannabis, inhalants, and alcohol [e.g.,5,6]. Further, Table 3 also shows the creative extent to which children will use non-traditional substances to alter their mental state. While some of these drugs such as pit toilet fume and lizard ingestion have been documented, these and other unusual practices deserve further study to improve our understanding regarding the extent of their harm to the developing brain [22,23].

The results of the qualitative data reveal the many ways that respondents are using their training skills in the CHILD curriculum in their daily work with children. These data highlight the practical utility of CHILD to improve clinical outcomes for children and describe how the specific lessons and skills of CHILD can be individualized to the unique needs of the cultural context, the community and the individual child being served. Such individualized interventions, especially for children living in impoverished settings, can improve cognitive, social and emotional

outcomes later in life [24]. Respondents also noted the use of CHILD to encourage interdisciplinary collaboration and to engage families in the treatment process and help them develop effective parenting skills. These were reassuring themes to see, as one of the primary messages of CHILD is to avoid treating the child in isolation, and instead to engage the family and community in the healing process and create an interdisciplinary team for treating the whole child, not just the child's drug use [25].

While the results demonstrate the frequent use of CHILD in practice, there are barriers which must be addressed to increase its uptake in clinical care. The implementation of the CHILD program was found to face six thematic barriers, including awareness and understanding, access to resources, cultural and language barriers, financial constraints, staff training, and program integration. While each of these barriers have been recognized in the literature as common challenges practitioners face when implementing child behavioral interventions [e.g., 26-31], their resolution remains crucial for the successful execution of CHILD in the USA and around the world. Overcoming such issues will help ensure that CHILD effectively supports children's health and the prevention or cessation of drug use.

Given the challenging barriers that impede the easy uptake of CHILD in daily practice with children who are at risk for or who have drug problems, the participants were invited to recommend solutions. These five themes of extensive awareness creation, enhanced collaboration and facility development, comprehensive training and capacity building, policy advocacy and curriculum integration and contextualization and adaptation of materials emerged. Consistent with the previously described themes dealing with barriers, these solution-focused themes can be found in the child literature which highlights the importance of increasing public and parental awareness to address unmet mental health needs in children [32,33]. There are also existing guidance documents that could be adapted to address ways of boosting advocacy, enhancing collaboration, expanding facilities and developing a continuous process for training and capacity building to serve children with drug use issues [34,35].

The findings from the listening session indicate that more research is needed to both systematically document the extent to which children in the USA and other countries are struggling with drug use including synthetic drugs like fentanyl and its many derivatives. There appears to be a need for integrating CHILD into existing health care structures while advocating for new more specialized care to be developed to respond to children with SUD.

Findings

Respondents represented 30 countries across multiple continents and had an average of 14 years of experience in the field of drug treatment, prevention, or recovery. The majority reported frequent observations of children aged 4–12 using drugs, particularly cannabis, and identified child drug use as a top priority to address. Participants widely applied CHILD training in their clinical work, though key barriers to implementation included limited awareness, resource constraints, cultural challenges, and difficulty integrating CHILD with existing services. Suggested solutions included increased awareness, cross-sector collaboration, policy advocacy, and contextualization of materials to adapt to the varied realities around the world.

Limitations, Conclusions & Recommendations

The strengths of the study are the breadth of countries represented, the years of experience of participants in the field of substance use disorder treatment, the format of the survey that allowed participants to elaborate on their responses, and the mixed methods data provided. Like all studies, there are limitations, which include a risk of social desirability bias influencing participants' responses, and a risk of the nonresponse bias impacting the results, as those who declined participation could have differing views or experiences that may also limit the generalizability of findings to other groups. Based on these results, recommended next steps include (1) Launch targeted awareness campaigns to educate families, communities, and stakeholders about child drug use and the availability of CHILD interventions, (2) Foster partnerships between health, education, social services, and community-based organizations to coordinate efforts and improve service delivery to identify and treat children at risk for or actively using drugs under the age of 12, and (3) Advocate for policy integration of CHILD into school curricula, national health standards, and child protection frameworks.

In overall conclusion, the quantitative and qualitative data from the CHILD implementation survey provide insight and helpful suggested actions that can be taken to guide the greater dissemination of CHILD in the USA and the world. This mixed methods study highlights important related issues to help identify this significant problem and recognize the associated threats. Given the rapidly changing drug supply that often contains dangerous toxic adulterants [36], there is great urgency to act now to protect children from exposure to these compounds that can impact on the overall children's brain development and the consequent increase in other health vulnerability including fatal overdose.

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