CRISIS INTERVENTION PROGRAM FOR CHILDREN AND ADOLESCENTS PREVENTING POST-CORONA DELINQUENCY, RESULTS OF A RANDOMISED CONTROLLED TRIAL

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Submitted 03 December 2022; accepted 19 February 2023

ABSTRACT

Background: A novel Crisis Intervention Program for Children and Adolescents (CIPCA) has shown a positive effect in preventing posttraumatic psychopathology among IDP children. In this study, the effect of CIPCA is examined in a randomised controlled trial.

Methods: During the Corona crisis in the city of Duhok in the Kurdistan region of Iraq, 97 of the enrolled 106 children between 6 - 18 years age accepted to participate in this study (response rate 91.5%). In the presence of a parent/caregiver, every participating child was interviewed within the first month after discharge from hospital or quarantine for Corona crisis. Child Behavior Checklist (CBCL) was conducted to estimate child behavior problem scores before randomisation to a single one-hour CIPCA intervention or a waiting list. The CBCL interview was repeated 6 months later to estimate changes over time.

Results: Delinquency behavior showed a significant difference between CIPCA and the waiting list over time, indicating a positive effect of CIPCA.

Conclusions: CIPCA is effective in identifying and preventing post-Corona juvenile delinquency problems. Follow-up is planned to detect any psychopathological development.

Duhok Med J 2024; 18 (1): 1-7.

Keywords: *CBCL, CIPCA, Corona crisis, Crisis intervention, Kurdistan*

Recent research revealed that most of the mental disorders start before age 14 years[1]. Any crisis situation might include traumatic events for the individual child.

The psychological effects of Corona crisis have been studied on adult populations in Iraq, including Iraqi Kurdistan. In Iraqi Kurdistan, home quarantine was found inducing anxiety during the beginning of the COVID-19 pandemic[2]. Previous psychological problems were found among the strongly associated factors with Depression and Generalised Anxiety as long-term consequences of COVID-19[3]. Another study of adult populations in Iraq in general, including Iraqi Kurdistan, also showed nearly half of the respondents expressing more prominent degree of health anxiety associated with younger ages[4] (Karim et al, 2020). All these studies suggest preventive programs.

https://doi.org/10.31386/dmj.2024.18.1.1

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Corona crisis has showed child mental health problems reminding of posttraumatic psychopathology[5]. Coronavirus affects child mental health[6]. Child symptoms at hospital during Corona crisis in Duhok suspect psychological problems (Haleem referred in Ahmad, 2020). Crisis Intervention Program for Children and Adolescents (CIPCA) was developed as a novel intervention to prevent child mental problems in a crisis situation[7]. In this study, we are investigating child mental problems' response to CIPCA in a randomised controlled trial (RCT) during Corona crisis in Duhok.

METHODS

All school aged children in the city of Duhok, with the following inclusion criteria, were enrolled in the study: Age between 6-18 years, discharged from hospital or quarantine due to the Corona crisis, mentioned in the name list from health authority in Duhok, can sit and speak at least one hour during CIPCA intervention.

Among all the 106 eligible children, 97 accepted to participate in this study (response rate 91.5%). In the presence of a parent/caregiver, these children were invited for interview together with parent/caregivers. Informed consent was obtained. All the participating children were interviewed with the Child Behavior Checklist (CBCL)[8] before randomization to CIPCA group and waiting list.

The CIPCA intervention was developed as a novel preventive psychological intervention[9]. We used CIPCA intervention in two ways; either CIPCA siting group or online individual, according to the child and parent/caregiver's desire. After 6 months, all children were re-interviewed with CBCL.

CIPCA depends on current scientific evidence on children's reactions during any crisis situation, that is causing psychological collapse and providing opportunities at the same time. During the crisis situation, a trained CIPCA Leader invites the child together with the caregiver to participate in a single one-hour conversation session. After obtaining informed consent from the child and the caregiver, the child is interviewed with the CBCL in the presence of the caregiver for assessment of child's competence and behaviour problems to be repeated after 6 months to find out changes overtime. Then, the child is randomised to receive CIPCA intervention directly or after 6 months. During the CIPCA intervention, the CIPCA Leader allows the child to freely express thoughts and emotions related to the current crisis situation, by asking Socratic questions according to a special instrument called Crisis Expression Guidelines (CEG). At the same time, another trained CIPCA Leader will observe the child's reactions during the intervention sessions, to find out any psychological distress in a special form called Crisis Screening Instrument (CSI) in order to refer the child to an individual child psychiatric assessment for adequate management. During the CIPCA intervention session, the child is supported to freely and spontaneously express emotions to be psychologically relieved from the negative memories related to the current crisis situation by verbalising the negative thoughts and finding out positive alternative thoughts and emotions. This will help the child coping with the negative experiences and any traumatic event will be cleaned to promote healings process and prevent psychological consequences.

Ethical clearance: The research was applied to the Research Ethics Committee at the Duhok Directorate General of Health, Kurdistan Regional Government (KRG).

Statistical analyses: The general information of the patients and indicators were determined in mean and standard deviation (SD). The comparisons of indicators between CIPCA and waiting list groups were examined in an independent test at baseline and follow-up steps. The comparison of gender between CIPCA and waiting list groups was examined in Pearson chi-squared test. The comparisons of child behavior between baseline and follow-up times in CIPCA and waiting list groups were examined in paired t-test. The effect size was determined using Cohen's d with G*Power 3.1.9.4. The effect size was determined as small (d=0.2), medium (d=0.5), and large (d=0.8). The comparisons of delinquency items between CIPCA and waiting list groups were examined in an independent t-test. The significant level of difference was determined in a p-value of less than 0.05. The statistical calculations were performed in JMP Pro 14.3.

RESULTS

Children with completely filled CBCL problem form were included in the statistical analysis. The analyzed children in this study showed no differences between CIPCA group and waiting list, at baseline (Table1).

Table 1: Comparisons of general information and child behavior problems between the analyzed children in CIPCA and Waiting list, at baseline.

Indicators	Study groups mean (SD)		P-value (two sided)
	CIPCA (n=42)	Waiting list (n=37)	
Age years	14.20 (2.74)	14.36 (3.13)	0.8046
Age groups 5-11years n (%) 12-18 years n (%)	6 (14.29) 36 (85.71)	7 (18.92) 30 (81.08)	0.5794
Gender Male n (%) Female n (%)	20 (47.62) 22 (52.38)	20 (54.05) 17 (45.95)	0.5681
COVID-19 test Negative Positive	40 (95.24) 2 (4.76)	31 (83.79) 6 (16.22)	0.0922
Thought problems	3.03 (2.59)	2.14 (1.83)	0.0999
Internalizing	17.05 (12.21)	14.56 (10.29)	0.3467
Externalizing	8.81 (5.90)	7.81 (5.04)	0.4258
Mixed	11.13 (8.21)	8.83 (5.99)	0.1773
CBCL total	44.67 (29.50)	37.31 (22.83)	0.2324
PTSD index	8.17 (6.95)	7.46 (7.26)	0.6597

An independent t-test was performed for statistical analyses.

Thirteen CBCL problem items showed highest response to CIPCA, mostly concerning delinquency (Table 2). However, only two items (Demands a lot of attention, and Cruelty, bullying or meanness to others) proved to show statistically significant differences between CIPCA and waiting list concerning the

changes over time (p= 0.03, Cohen's d = 0.5, and p=0.04, Cohen's d= 0.3), respectively). All the remaining delinquency items in table 2 showed a tendency or trend of positive effects among the CIPCA group more than the waiting list, although the differences did not reach significant levels.

Table 2: Mean scores (μ) for behavior problems showing the highest responses to the CIPCA, from lowest to highest respectively.

Behavior problems	CIPCA Baseline μ	Waiting list Baseline μ	CIPCA Follow-up μ	Waiting list Follow-up μ
Swearing or obscene language	0.06	0.06	0.09	0.23
Deliberately harms self or attempts suicide.	0.27	0.26	0.06	0.09
Destroys things belonging to her/his family or other children.	0.08	0.13	0.03	0.15
Speech problem	0.16	0.18	0.06	0.09
Talks or walks in sleep	0.48	0.44	0.18	0.24
Teases a lot	0.14	0	0.06	0.06
Whining	0.37	0.35	0.21	0.25
Argues a lot	1.02	0.92	0.2	0.43
Bowel movements outside toilet	0.10	0.14	0	0.29
Cruel to animals	0.13	0.22	0	0.14
Day – dreams or gets lost in her/his thoughts	0.92	0.72	0.4	0.58
Demands a lot of attention	0.92	0.90	0	0.43*
Cruelty, bullying or meanness to others	0.05	0.16	0	0.29*

An independent t-test was performed for statistical analyses.
*The significant level of difference was determined in a p-value of less than 0.05.

DISCUSSION-CONCLUSION

A randomised controlled trial (RCT) study of all the eligible children in the city of Duhok after discharge from hospital or quarantine due to the Corona crisis during 2020 showed significant differences in delinquency scores over 6 months between children who directly received CIPCA intervention after randomization and a waiting list who did not receive CIPCA. Although not significant, the remaining items in a delinquency behavior list showed the highest responses to CIPCA, indicating a trend or tendency to respond without reaching significance perhaps due to the small sample size.

The novel crisis intervention program for children and adolescents CIPCA was developed during 2014 to prevent posttraumatic psychopathology among the school children in the IDP camps around Duhok city after the ISIS war. The results of a pilot study showed significant effect of CIPCA after two years follow-up[9].

This is the first RCT showing a significant response of CIPCA on delinquency behavior. The explanation might be related to the sociocultural context under isolation

and limitation of movement outside the home during the Corona crisis[2]. However, neurobiological mechanisms of anti-trauma impact can not be excluded[10]. Further research is needed to follow-up the effect on preventing any psychotherapy in the future, such as Posttraumatic stress disorder (PTSD), conduct disorder or antisocial personality as potential consequences of traumatic experiences and delinquency[11], and also to identify biological indicators suggesting CIPCA impact on immunity[12].
Conclusion: CIPCA proved to prevent juvenile delinquency during Corona crisis in Duhok.

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پوختە

بەرنامەی دەستێوەردانی قەیرانەکان بۆ منداڵان و هەرزەکاران (سیپکا)
زاروکان د پارێزیت ژ دەخەسیـ ـل قەیرانا کورونا

پێشینە: بەرنامەی نوێی دەستێوەردانی قەیرانەکان بۆ منداڵان و هەرزەکاران (CIPCA) کاریگەری ئەرێنی لە ڕێگریکردن لە تێکچوونی فشاری دەروونی دوای کارەسات لە نێوان منداڵانی ئاوارە ناوخۆییەکاندا نیشانداوە. لەم لێکۆڵینەوەیەدا، کاریگەری CIPCA لە تاقیکردنەوەیەکی کۆنترۆڵکراوی هەڕەمەکیدا تاقیکرایەوە.

شێوازەکان: لە کاتی قەیرانی کۆرۆنا لە شاری دۆهوک لە هەرێمی کوردستان، لە کۆی 106 منداڵی تۆمارکراوی تەمەن 6-18 ساڵ، 97 منداڵیان وەرگیراون بۆ بەشداریکردن لەم توێژینەوەیەدا (ڕێژەی وەڵامدانەوە 91.5%). بە ئامادەبوونی دایک و باوک/چاودێرێک، هەر منداڵێکی بەشداربوو لە ماوەی مانگی یەکەمدا دوای دەرچوون لە نەخۆشخانە یان کەرەنتینە بەهۆی قەیرانی کۆرۆناوە چاوپێکەوتنی لەگەڵدا کرا. لیستی پشکنینی ڕەفتاری منداڵان (CBCL) بۆ خەملاندنی نمرەکانی کێشەی ڕەفتاری منداڵان پێش بە شێوەیەکی هەڕەمەکی بۆ یەک کاتژمێری CIPCA یان دەستێوەردانی لیستی چاوەڕوانی بەڕێوەچوو. چاوپێکەوتنی CBCL دوای ٦ مانگ دووبارەکرایەوە بۆ خەملاندنی گۆڕانکارییەکان بە تێپەڕبوونی کات.

دەرەنجامەکان: هەڵسوکەوتی لادان جیاوازییەکی بەرچاوی لە نێوان CIPCA و لیستی چاوەڕوانیدا بە تێپەڕبوونی کات نیشان دا، ئەمەش کاریگەری ئەرێنی CIPCA پێشنیار دەکات.

دەرەنجامەکان: CIPCA کاریگەرە لە دەستنیشانکردن و ڕێگریکردن لە کێشەکانی تاوانکاری هەرزەکاران دوای کۆڤید-19. بەدواداچوون بۆ دیاریکردنی هەر گەشەیەکی دەروونی پلانی بۆ دانراوە.

الخلاصة

برنامج التدخل في الأزمات للأطفال والمراهقين (سيبكا) تقلل جنوح الأحداث لدى الاطفال بعد ازمة كورونا

الخلفية والأهداف: أظهر برنامج التدخل في الأزمات الجديد للأطفال والمراهقين (CIPCA) تأثيرًا إيجابيًا في الوقاية من الأمراض النفسية التالية للصدمة بين الأطفال النازحين داخليًا. في هذه الدراسة، تم فحص تأثير CIPCA في تجربة عشوائية محكومة.

الطرق: خلال أزمة كورونا في مدينة دهوك في إقليم كردستان العراق، تم قبول 97 من الأطفال المسجلين البالغ عددهم 106 أطفال والذين تتراوح أعمارهم بين 6 - 18 سنة للمشاركة في هذه الدراسة (معدل الاستجابة 91.5%). بحضور أحد الوالدين/مقدم الرعاية، تمت مقابلة كل طفل مشارك خلال الشهر الأول بعد الخروج من المستشفى أو الحجر الصحي بسبب أزمة كورونا. تم إجراء قائمة مراجعة سلوك الطفل (CBCL) لتقدير درجات مشكلة سلوك الطفل قبل التوزيع العشوائي لتدخل CIPCA واحد لمدة ساعة واحدة أو قائمة الانتظار. تم تكرار مقابلة CBCL بعد 6 أشهر لتقدير التغييرات مع مرور الوقت.

النتائج أظهر سلوك الانحراف فرقًا كبيرًا بين CIPCA وقائمة الانتظار مع مرور الوقت، مما يشير إلى وجود تأثير إيجابي لـ.CIPCA

الاستنتاجات: CIPCA فعال في تحديد ومنع مشاكل انحراف الأحداث بعد كورونا. يتم التخطيط للمتابعة للكشف عن أي تطور نفسي.