Adaptation and Implementation of “Care for Child Development" (CCD) Intervention in the Health System in Iran: A Protocol Study

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Abstract- The knowledge of caregivers about the ways of parenting which promote development and learning of children is often limited. The Care for Child Development (CCD) program has been proposed by the World Health Organization and UNICEF to promote caregivers’ skills in playing and communicating with their children and consequently promote child development. Providing a comprehensive program to promote the development of children and psychological support for parents of children at risk of developmental delays under three is essential. To adapt and implement " Care for Child Development" (CCD) intervention in the health system and orphanages of Iran. In this open-label randomized controlled trial, a targeted sampling method will be used in selecting the group of experts for adapting the CCD intervention. Four provinces will be selected for implementation of the present phase of study. Among obstetrics/gynecology hospitals, health centers, Child Development Centers (CDCs), and Orphanages, two health centers, two obstetrics/gynecology hospitals and two Orphanages (if exist) will be selected in each province (one center for intervention and one for control), 4 health care providers and 4 midwives from each province and 4 orphanage caregivers (48 persons in total) will receive CCD training. Using the Morgan table, 1000 children under three years old from these centers will be selected randomly and will be divided into two groups of experimental (500 people) and control (500 people). In each center, the selected care-providers and/or midwives will be trained, and they are responsible for conducting the CCD program and pre- and post-evaluation.

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Introduction

Child development is a complex pattern of changes resulting from biological processes, cognitive, and socio-emotional status (1). Normal development means that acquiring, modifying, and improving a wide range of child’s skills is equivalent to most children of the same age and culture, or that certain skills are acquired on a relatively predictable schedule (2). During the last forty years, improvement of medical care leads to a decrease in the death rate of Iranian neonates, that has been 68 per 1000 in the years 1977-1978, and since then the trend has decreased to 8.8 per 1000 in 2017 (3); but due to the survival of infants with medical problems and prematurity, the number of children with developmental delays has increased significantly among these children (4). The knowledge and practice of mothers of children under the age of three about child development and

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developmental milestones are lacking (5,6). Many children have limited opportunities to learn, communicate and play at home (7).

Specialists are now working to provide specific programs to promote and support the optimal development of infancy by providing an easy understanding of the basic principles of early childhood development and learning (2). Accordingly, the World Health Organization/UNICEF in 1999 proposed the Care for Child Development (CCD) program to help improve the developmental process of children. This program is rooted in the strategy of the World Health Organization and UNICEF on Integrated Management of Childhood Illness (IMCI), i.e. the elimination of common causes of morbidity and mortality of children in low- and middle-income countries. The first version based on IMCI Strategy was implemented considering the nutritional care counseling model for children under 5 years old in 2002 (8).

The second version of the CCD program was launched in 2012, in which the intervention was separated from IMCI and the visit of the child at home and other places became possible. The content of this edition focused on the sensitivity and responsiveness of the caregiver to promote the development of a child under 5 years of age. In 2014, the World Health Organization and UNICEF created a special module for it, which was a combination of play and counseling. In addition to improve the sensitivity and responsiveness of the caregiver, the program emphasizes on parental involvement in communicating and playing with children under the age of three, as well as meeting basic health needs such as breastfeeding, preventing injury (8). Numerous studies including studies from Pakistan, Malawi, India, China, Turkey and Iran have confirmed the effectiveness of this intervention (8).

In Iran, a previous study looking at the effectiveness of CCD intervention on the quality of maternal caregiving and responsiveness to their children at risk of developmental delay showed that CCD explained 18% of the variations in maternal caregiving quality and 23% of the variations in their responsiveness. In addition, CCD mothers were significantly more competent in providing appropriate activities, predictable programs, play environment and safe home to their children compared to control group (9). However, one of the most important challenges in the field of health in our country is center base treatment and insufficient attention to preventive medicine (10). Existing health programs focus on physical health and reducing child mortality. Comprehensive programs aiming to promote child development and provide psychological support for parents of children under five with developmental delays are non-existing (3). In the current context of society, adopting the most cost effective strategies with data driven research, reducing the gap between diagnosis and initiation of intervention, and preventing the negative consequences of labeling, are very important for policymakers and health care providers. In global health interventions, due to cultural, geographical and new population differences, the adaptation of programs is essential (11).

In the current study, researchers intend to implement the CCD program in Iran's health system and want to answer the basic questions of whether the CCD program is applicable in the country's health system. Is the CCD program effective in promoting the sensitivity and responsiveness skills of caregivers?

Objectives and hypotheses

Specific objectives

The overall objective is to adapt and implement the" Care for Child Development" (CCD) intervention package in the health system and orphanages of Iran

Primary outcomes

The effectiveness of CCD intervention on caregivers' and health care providers' knowledge and attitude toward child development

Secondary outcomes

The effectiveness of CCD service on the skills of caregivers and care providers

Main hypotheses

- The CCD program is effective in promoting the knowledge and skills of caregivers in-order to be sensitive and responsive caregivers
- The CCD program is effective on the knowledge and skills of health care providers, and midwives
- The effects of the CCD training program will be maintained over a period of time (two months)

Materials and Methods

Methods/design

Study design

The present study is an open label randomized controlled trial.

Study population, procedures for selecting

participants and randomization

In this research, according to the research objectives, two research study communities will be used to adapt the program and answer the questions:

A) Development of an implementation the program

The first study population includes finding a group of experts interested in implementation of the program, using targeted sampling method, who will attribute in preparing written documents related to the subject of research, including national reports, books, scientific and research articles for the Ministry of Health and Medical Education. The experts were selected based on their interest in participating in research, related field of study, having useful experiences, writing and publishing scientific articles in the field of research, and employment in a field related to the subject of research. This group includes specialists in the field of child development (Child Development Fellowship, Neonatal and Child Specialist, Members from child health office of MOH, Child Psychologist, Occupational Therapy and Speech Therapy) and other clinicians who are involved in the "CCD.

B) Evaluate the effectiveness of the program

The statistical population of this part of the study is the health care providers & Midwives who are going to be trained as CCD counselors and the caregivers (parents) who will receive the counseling.

Four medical universities were selected for implementation of this phase of the study (Tehran, Mashhad, Tabriz, and Hormozgan). The opportunities for implementation will be 1) during the Childbirth Preparation (Safe motherhood) Classes given throughout the pregnancy at the obstetrics/gynecology hospitals, 2) during child health visits to the Health Centers (HCs), 3) during visits to the Child Development Centers and 4) at the identified Orphanages. One site from each mentioned centers will be selected as intervention and one of each as control.

Four health care providers from each intervention heath centers and four midwifes from each intervention obstetrics/gynecology hospitals will receive training and pass it into parents. Using the Morgan table, 1000 children under three years old from these centers will be assigned randomly into two groups of experimental (500 people) and control (500 people).

Eligibility criteria

Inclusion criteria

1. All children under the age of three with seemingly healthy development (ASQ scores above minus 2 in all developmental areas) can participate in this program (According to MOHME protocols ASQ is done to all children in the centers).

2. The child caregivers and pregnant mothers with relative physical and mental health are also eligible to participate in the program.

Exclusion criteria

At any time during the study, children found to be developmentally delayed or disturbed will be excluded and referred to specialized services. In addition, caregivers with serious mental or physical health problems that may interfere with their communication and play with their child will be excluded and referred for specialized services. Parents who decide to exit the study at any time will also be excluded.

Implementation procedures and Data collection

Research outline

In the present study, researchers intend to adapt Care for Child Development intervention (CCD), using the opinions of national and international experts, considering the health system's capacity and validate this adaptation according to experts' opinion. Researchers will then evaluate the effectiveness of CCD intervention on the quality of child caregivers' skills in childcare. To that effect a mixed quantitative and qualitative exploratory design will be used.

The qualitative part will inform the development and expansion of the quantitative part.

The project began with reviewing and analyzing the current child development situation in Iran, followed by adapting the standard CCD package and integrating the relevant guidelines to the childcare national package with the help of international consultants and national experts.

Finally, model development and implementation are performed.

In the data collection section, using the qualitative method, model development and implementation are performed, then using the quantitative method, validation is performed, and finally its effectiveness will be determined.

Assessment tools

To evaluate the efficacy of the CCD intervention on health care providers, parents, and caregivers of orphanages, 8 tools will be utilized, which are:

Tool No. 1: Checklist of Counseling for Care for

Child Development

Tool No. 2: Caregiver (Parent) Report of the Service Provider Skills

Tool No. 3: Interview with the Service Provider

Tool No. 4: Service Provider Skills Observation Questionnaire

Tool No. 5: Family Environment Assessment

Tool No. 6: Parent's Sensitivity and Responsiveness Questionnaire

Tool No. 7: Mother's Knowledge and Attitude Questionnaire

Tool No. 8: Pre-Test and Post-Test Used in the TOT Workshop

It is worth mentioning that apart from the parent's sensitivity and responsiveness questionnaire (Tool No. 6) and the mother's knowledge and attitude questionnaire (Tool No. 7), the rest of the tools are proposed by UNICEF which have been approved in terms of content validity after translation.

Implementation procedure

The details of the implementation of the intervention are as follows:

The CCD intervention will be implemented in four different locations:

1. During Childbirth Preparation Classes for Pregnant Mothers
2. Comprehensive Health Service Centers
3. Comprehensive Centers for Children's Growth and Development
4. Orphanages across the country

Implementation of CCD intervention during Childbirth Preparation Classes for Pregnant Mothers

The childbirth preparation classes have been held in the university hospitals and comprehensive health centers for several years. These classes were considered and selected as a proper place for implementation of the CCD based on the panel of experts' opinions and previously conducted studies by the project implementers. Briefly, in the intervention group, midwives will be trained on CCD intervention by CCD national trainers. Their knowledge and skills in counseling others on CCD will be tested before they are asked to conduct the 30-minute CCD session for pregnant women.

The implementers have obtained permission for midwives to deliver a 30-minute CCD training session for mothers, from the Maternal and Neonatal Healthcare Office of the Ministry of Health and Medical Education.

For the pilot phase, one hospital and one health center are selected as intervention sites and one hospital and one health center as control sites in consultation with the deputy of the Health of Medical University in each province. Therefore, in total, 4 hospitals and 4 health centers will form the control group, and 4 hospitals and 4 health centers the intervention group.

Since one or sometimes two midwives are responsible for holding classes in each center, therefore, a total of 32 midwives (8 midwives in each province) will be recruited. Half of them will be trained on CCD (intervention group) by participating in a 29-hour virtual CCD workshop and the other half will not (control group) Control group receive only the routine and standard training about newborn care after birth the teaching syllabus for intervention group follows the CCD package recommendations.

After passing the workshop, the participating midwives (intervention) will observe five CCD counseling sessions conducted by the workshop instructors. The trained midwives are then considered as "CCD trainers" and will be responsible for conducting the 30-minute CCD session for pregnant women.

The proper time for this 30-minute CCD training session is the eighth session of easy delivery classes, which are dedicated to the care of infants and breastfeeding. Fathers will be also invited to attend these classes.

Training syllabus

- The importance of brain evolution in the early years of childhood and the impact of environmental factors on child development (5 minutes)
- Different domains of child development (5 minutes)
- The concept of sensitivity and responsiveness of parents (5 minutes)
- Method of playing and talking with the baby, choosing the proper toy, making him/her laugh, calming him/her down (5 minutes)
- The specific role of the father in promoting the development of the child (during pregnancy and the early months after birth) (5 minutes)
- The importance of breastfeeding, skin contact and cuddling or caressing care, and baby massage (5 minutes)

At the end of the group session, the play and communication activities related to days 0-7 and one week to six months from the Care for Child Development recommendation card will be explained to

pregnant mothers and fathers. These sessions will be held with the participation of several pregnant mothers in the maternity hospitals in the four pilot universities. (The total number of participants in four pilot universities would be more than 30). The same number of pregnant mothers will be selected from the control group.

Evaluation

To evaluate the effectiveness of the CCD workshop on midwives' knowledge regarding child development a pre and post-test will be administered during the 29-hour workshop (Tool No. 8). The same evaluation will be given to the control group before and after their standard training.

Before and after the 30-minute intervention session and approximately one month later, the effectiveness of this training on the parents' knowledge and attitude will be examined using a questionnaire (Tool No. 7: Mother's Knowledge and Attitude Questionnaire). For the control group, the same questionnaire will be given to a total of 30 mothers in the four pilot universities before and after the eighth standard prenatal education session.

Materials required

- The CCD training package for 16 people (the midwives of intervention group)
- Recommendations for the Care for Child Development Card for 0 to 7 days and one week to six months old children for 30 pregnant mothers in the intervention bases.
- The toys recommended in the Recommendation cards according to age, plus the new ASQ activities), 30 copies. The Mother's Knowledge and Attitude Questionnaire (Tool No. 7, 90 copies for intervention group and 90 for control group).
- The Pre-Test and Post-Test (tool No. 8) for 32 caregivers (96 copies).

Method of implementation of the program in health centers (HCs)

Initially, in each pilot university, two comprehensive health centers are selected as the intervention and control centers. Sixteen health care providers from four provinces will be selected as the intervention group and sixteen health care providers as the control group. The health care providers of the intervention centers will participate in a 40-hour workshop. This workshop will be held by the instructors of the national introductory workshop. In addition to the whole syllabus of the TOT (Training of Trainers) workshop, a new topic entitled "Method of Performing the CCD Consultation in Ten Minutes in Health Centers" will be taught to the health care providers.

In this workshop, the health care providers will learn how to perform counseling, how to fill out the checklists, how to report counseling sessions, pre-and post-intervention evaluations, and how to evaluate follow-ups. Furthermore, they will also be instructed to give the Care for Child Development Recommendations Card and the appropriate age ASQ activities to the caregiver at the end of the counseling session.

After completing the 40-hour workshop and gaining the necessary skills, the health care providers will provide 10-minute Consultation to the caregivers and their children aged 0-3 years.

Features of the 10-minute counseling for caregivers

A 10-minute counseling will be conducted twice and two weeks apart (Figure 1). Follow up counseling (Third 10-minute counseling) will be conducted 2 months after the first one (Table 1).

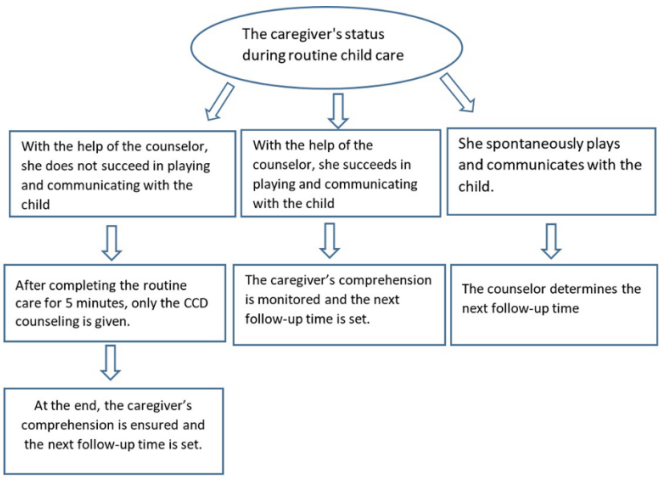

Figure 1. The 10-Minute CCD Counseling Flowchart in the Health Centers (Designed Based on the Caregiver's Ability to Communicate and Play with the Child)

Table 1. The 10-minute CCD consultation checklist in health centers

Date	**Preparer's Name**	**Address**
Child's Full Name:	**Age (Year-Month):**	**Sex: M/F**
Caregiver:	**Relation:**	
Look	**Admire the Caregiver**	**Guide the Caregiver & Help to Solve the Problem**
How does the caregiver show that she is aware of her child's actions?	She goes to the scale with the child, talks to him/her while weighing her, shows her things during the vaccination, or makes noises and keeps her amused.	**She does not talk to him/her and forces the child to do something:** Encourage the mother to communicate more with the child and follow him/her.
How does she calm down the child and show her love?	She looks at the baby, hugs and caresses him/her during the vaccination.	**If she does not look at the child, she does not comfort or caress him/her:** Advise her to talk to the baby and to caress and hug the baby
How does she correct the child's behavioral problems?	If the child is over 2 years old and resists weighing, the mother stands on the scales in front of him/her and explains, keeping the child amused with toys during the vaccination.	**She blames the child, pushes him/her, and is indifferent to the child's reaction.** Help the caregiver to understand and interpret correctly the child's actions and thoughts, advise her to give toys to distract the child.
	totally within 4 minutes	
The counselor asks the caregiver questions about how to play and talk to the child and make him or her laugh at home.	Choosing the right toy, reading stories and poems, playing games such as dolly mouse or hide and seek, responding to the child's noises and gestures.	**She is not accountable to her child, she makes him/her laugh forcefully, since she is too busy, she does not play with the child:** Giving age-appropriate advice for activities and games, giving age-appropriate toys, and encouraging her to start playing with the child
	totally within 3 minutes	
If the child is over six months old: Asking the mother about her child's learning	The child learns well based on his/her mother's claim.	**The mother thinks that the child is not sharp:** Advising her to have more activity and communication with the child, controlling the child's vision and hearing
The counselor asks about the caregiver's problems, guides her, and checks the comprehension of what is being said. Consequently, the counselor gives the educational booklet or pamphlet to the caregiver. If follow-up is required, the counselor notes down the appointment date for the caregiver.		
totally within 3 minutes		

The data related to evaluating the effectiveness of the CCD intervention on the knowledge and skills of health care providers (the intervention and control group) will be collected using the Service Provider Skills Observation Questionnaire (Tool No. 4), Interview with the Service Provider (Tool No. 3), and Caregiver (Parent) Report of the Service Provider Skills (Tool No. 2). These data will be collected three times (before intervention, two weeks and two months after the 10-minute counseling sessions).

Family Environment Assessment tool (Tool No. 5) will be used to collect the necessary data to evaluate the effectiveness of the intervention on the performance of child caregivers (parents). This data will be collected in the previous three times, before, at two weeks and at two months follow up.

If the health care provider (counselor) does not notice a significant change in the caregiver's skills after performing two 10-minute counseling (based on the assessments during the consultation), the caregiver will be referred to a Child development center for the standard CCD counseling.

Materials required

- The CCD training package and Recommendations for Care for Child Development Card for 20 people (the intervention group)
- The toys recommended in the Recommendation cards according to age (for 16 counselors)
- The new ASQ activities, 500 copies
- Tool No. 1 & 5, 2400 copies of each.
- Tool No. 2, 3 & 4, 120 copies.

Method of implementation of the program in the child development centers (CDCs)

These centers will house the national CCD trainers. The individual and standard CCD counseling in these centers will be performed in a separate room equipped with a mattress and the standard CCD play equipment package. The duration of these counseling is 30 minutes and will be done for referred caregivers from the health centers. The number of counseling sessions will be four and with intervals to be determined by the counselor. Before and after the intervention, the caregiver's skills

will be assessed using tool No. 1(Checklist of Counseling for Care for Child Development). The follow-up evaluation will be carried out two months after the completion of the CCD sessions. The data related to evaluating the effectiveness of the CCD intervention on the knowledge and skills of counselors (intervention group) will be collected using tool No. 4(Service Provider Skills Observation Questionnaire), tool No. 3(Interview with the Service Provider), and Caregiver (Parent) Report of the Service Provider Skills (Tool No. 2). Data will be collected in the previous three times, before, at two weeks and at two months follow up.

Family Environment Assessment (Tool No. 5) and the Checklist of Counseling for Care for Child Development (Tool No.1) will be used to collect the necessary data to evaluate the effectiveness of the intervention on the performance of caregivers. These data will be collected in three times, before, at two weeks and at two months follow up.

Method of implementation in the orphanages

In each pilot university, one orphanage will be selected as the intervention center. Fifteen orphanage caregivers working in these orphanages will participate in the five-day 40-hour CCD workshop. At the end of the workshop, the orphanage's caregivers will practice the CCD skills with orphanage children during five sessions. These practice sessions will be conducted under the coaching of the CCD co-facilitators/trainers (trained in the virtual TOT) who will confirm the number of sessions needed for the caregivers to acquire ability to play and communicate with the child. In total each participating orphanage caregiver would have attended a five-day workshop and five play sessions with the child under the supervision of a CCD trainer.

Once the CCD trainers confirm the orphanage caregiver's ability to play and communicate appropriately with the child under three years, the CCD intervention for the orphanage children will be conducted by these caregivers. Before and after the training workshop the orphanage caregivers' knowledge and skills will be assessed using valid tools.

In tune with the number of caregivers in the intervention orphanages, the control group will be selected from the orphanages in other provinces across the country.

The effectiveness of the intervention on the performance of the orphanage caregivers will be assessed using the Checklist of Counseling for Care for Child Development (Tool No.1). Data will be collected before and after the intervention and at the two months' follow-up. Similar assessments will be conducted on the orphanage caregivers from the control group.

Materials required for the implementation of CCD in the orphanages

- The CCD training package and Recommendations for Care for Child Development cards for 15 people (Intervention group)
- The toys recommended in the Recommendation cards according to age for 15 people (the intervention group), for 4 intervention bases
- The new ASQ activities, 20copies.
- Checklist of counseling for Care for Child development (Tool No. 1), 90 copies.

Data analysis plan

Sample size calculation

The sample was determined based on the primary outcome using the Morgan table. As such a total of 1000 children under three years of age (500 in the intervention group and 500 control) will be recruited from all the centers. In addition, 800 caregivers (400 for the intervention group and 400 for the control group) will be studied.

Qualitative data will be analyzed using

Qualitative data will be analyzed using SPSS software v.23. Descriptive statistics will be summarized by presenting the number and percentage for categorical variables and mean and standard deviation (±SD) for continuous ones. The association between the condition (intervention or control) and categorical variables will be carried out using the Chi-Square test and between condition and continuous variables using Student's t-test. Multivariate regression analysis will be computed to determine independent outcome predictors. Methods of data analysis in different stages of research are shown in Table 2. The approaches for analysis of the data are shown in Figure 2 (12).

Table 2. Methods of data analysis in different stages of research

Stage	Analysis Method
Adaptation and implementation	• Extracting basic expressions and concepts in the concept table and classification, discovering similarities and differences between these concepts, interpreting and categorizing • Expert panel
Effectiveness on parents, health care providers s, and caregivers of orphanages	Analysis of covariance and comparison of mean differences
Follow-up	Correlated T

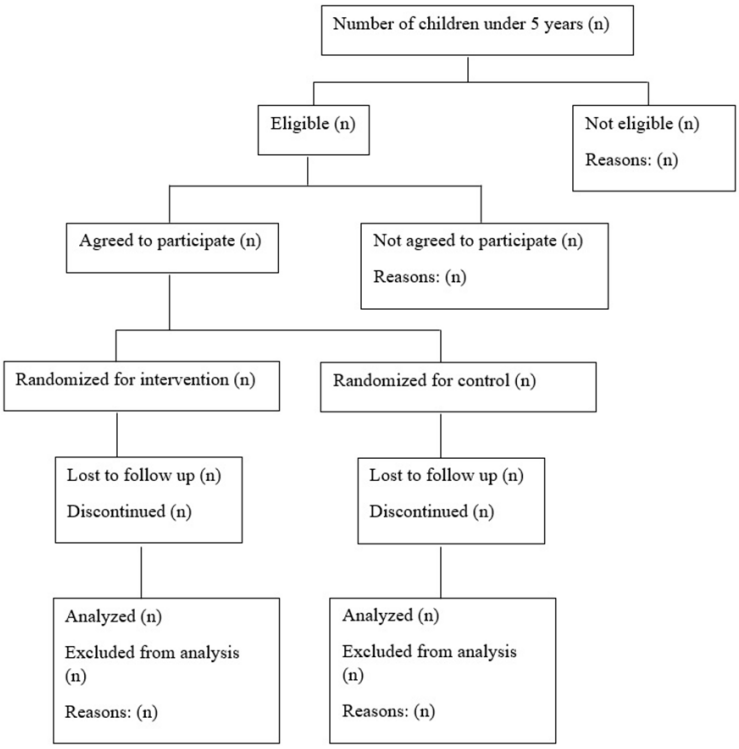

Figure 2. Study design and population

Ethical issues

This project has been approved by the Ethics committee of Imam-Khomeini Hospital Complex, Tehran University of Medical Sciences (Ethical Code: IR.TUMS.IKHC.REC.1400.093). The protocol has been registered in Iranian Registry of Clinical Trials (IRCT) (IRCT Code: IRCT20100503003857N2). In this research, all social, cultural, and religious values of the participants will be observed. This research has been designed and will be performed by individuals who have the necessary and relevant clinical expertise and skills. No criteria such as speed, ease of work, the convenience of the researcher, lower cost, and/or its mere practicality will in no way endanger or impose any restrictions on the participant.

The selection of participants from the population will be fair, that the potential risks or costs as well as the benefits of participating in the research, in that population and the whole society, are not discriminatory. Refusal to participate in the research, or not to continue the cooperation, will not have any effect on the services received by the participants. During the work, the privacy of the subjects will be respected. They will be informed from the results of research if requested.

Discussion

The current knowledge in the field of child development is the result of research conducted in connection with five important theories, maturation, psychoanalysis, social psychology, cognitive development and learning theory, each of which

describes and explains specific dimensions of child development. At present, experts try to provide special programs to promote and support the optimal development of infancy by providing an easy understanding of the basic principles of development and learning in early childhood and accurate and partial guidance of development in various aspects of Child development (13). Studies show that there is a positive and significant relationship between reciprocal response and a child's language and motor scores. In other words, the quality of mother-child interaction is known as an effective factor in the child's subsequent development and acquisition of language and motor skills (14).

There are several programs to support a child's development. Some programs focus on language and reading skills, some focus on challenging behaviors and behavior management, and some focus on home visits, which seems to be a developmental care program. CCD has a fundamental advantage over other programs. The first advantage is that it is family-oriented and focuses on coaching instead of educating parents, and the second advantage is that it is easy and applicable in all natural conditions and environments. CCD has been implemented in the context of governmental and non-governmental health services in some countries such as India, Kazakhstan, Kenya, Kyrgyzstan, Mozambique, Pakistan and Tajikistan, Malaysia, India, and Turkey to promote child development (8).

The results of previous research have shown that the developmental care program is effective on communication and cognitive skills of children in the orphanage (15). The effect of three types of responsive-stimulatory, nutritional, and combined interventions on the development of children in the age group of 4 years in a deprived population in Pakistan was investigated. In this intervention, 1302 caregivers were divided into 4 control groups and response-stimulation intervention groups, feeding intervention, and a combination of responsive and feeding groups. After the intervention, it was found that children in the response-stimulation intervention group had higher performance in cognitive skills (intelligence, executive, and pre-educational functions), language, and movement than the group who did not receive the intervention. The results of this intervention showed that the mother's knowledge and skills about child nutrition and development, the quality of mother-child interaction, and mothers' psychosocial well-being had increased (16).

The development of the child affects his development in other areas such as socio-economic and establishment of a successful and sustainable society, so the implementers of the healthcare staff work to improve the process of development of children; but despite this effort, a significant group of children develop a variety of developmental-neurological disorders, as the result of early adverse childhood experiences that might have negative consequences at individual, family and community levels (14).

Since this study seeks to prevent the occurrence and worsening of developmental problems in childhood, it is expected that if the possible findings of this study are used: 1) at the individual level, it would promote development, reduce or eliminate some clinical symptoms, reduce injury or malfunction, enhance advanced social adequacy and improve educational status of these children in school, 2) at the family level, it would reduce family dysfunction, improve marital relations and reduce the burden of parental responsibility and improve quality of life and at the community level, improve the child's participation in school-related activities and reduce legal violations, improve economic conditions and reduce the burden on the society.

Some potential limitations can be foreseen in the implementation stages of this project; for example, fathers' participation in pregnancy and after birth may not be optimal. Also, Comprehensive Centers for Children's Growth and Development have not been established in the whole country until the protocol is designed, and considering the possibility of delaying the establishment of these centers until the implementation of the plan, the corresponding consultation sessions will be held in the Health Centers. Finally, due to the conditions of the Covid-19 epidemic and due to the social and cultural status of Iran, some of the goals of the project may not be fully achieved.

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