

# The Efficiency of State Medical Program to Children with Lack of Family Care

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## ABSTRACT

In Georgia there is a "State Program of Medical Help to Children without Family Care". Objectives: to reveal the efficiency of ongoing Program on health state of institutionalized children. Material: the investigation was performed in Tbilisi Infant's Orphanage. A retrospective analysis of 456 children's individual cards containing medical data of period 1996-2000 was done. The age of children varied from 2 weeks to 4 years. Results: It is shown that ongoing program is effective for the institutionalized children's health improvement, but it seems more reasonable to direct the efforts predominantly to the prevention of children's institutionalization, to support their reintegration and fosterage.

**KEYWORDS:** *state program, institutionalization, infant's orphanage, children, growth, development*

In Georgia as in other countries of former Soviet Union is a net of orphanages for infants and children. Due to poor economical conditions in last years in Georgia the amount of neglected children are increased. Most of them are placed in orphanages in Tbilisi and in other towns of Georgia. The most significant problems for these children are malnutrition, high morbidity and mortality rates. In several investigations, which took place in Tbilisi Infant's Orphanage the hypothesis that maternal deprivation is stressful for infants was confirmed [1,2]. In numerous experimental works are shown that maternal deprivation causes the persistent changes in hypothalamic-pituitary-adrenal activity in offspring [3,4,5]. By Coe C.L. et al. [6], maternal deprivation in neonatal animals induces the long-lasting changes in the reactivity of the neuroendocrine system and process of immunoregulation. Czech child psychologists and psychiatrists [7] had studied the affect of maternal deprivation on institutionalized children's psychological and intellectual development and had observed significant retardation among them. Korean scientists observed improvement in physical growth and illness rates after multisensory intervention in orphan newborn infants [8].

In previous works we had investigated the influence of maternal deprivation and institutionalization on children's physical and psychomotor development, hypothalamic-pituitary-adrenal activity, processes of immunoregulation [1,2]. The results of our observations confirmed the negative affect of maternal deprivation on infant's health state. So the "State Program of Medical Help to Children with Lack of Family Care" was elaborated, which includes the institution support, children's medical and rehabilitation services in orphanages, some stimulation measures: such as psychological services, tactile and emotional stimulations, and organization of amusing performances.

The present study was designed to reveal the efficacy of ongoing program on health state of institutionalized children.

## MATERIAL AND METHODS

The investigation was performed in Tbilisi Infant's House. A retrospective analysis of children's individual cards containing medical data, child's growth&development (according to the Denver II Screening Test), during 1995 – 2000 years were done. The numbers of cards were 450. The age of children varied from 2 weeks to 4 years. There were formed 3 groups. I group formed data got from card analyses of deprived children before program implementation. II group formed data got from the same contingent after program implementation and III group formed the data of the control group, which was got from medical cards of healthy children from full families in policlinics.

The following parameters were analyzed: child's weight, height (length), gross & fine motor, language developments, social adaptation. The developmental rate by the developmental quotient was quantitated –

$DQ = \text{developmental age} / \text{chronological age} \times 100$  [9].

Data were analyzed by Student's t-test as indicated. Comparisons with  $r < 0,05$  were considered statistically significant.

## RESULTS

The results of our investigation are given in Tab.1. According to our data, during 5 - 6 years under the action of special program the improvements in infants' social adaptation, language development, weight gain was revealed ( $r < 0,001$ ).

There was observed some improvement in children's length gain and motor development after Program implementation too. But the developmental rate of institutionalized children remained much lower than of their pairs (children of the same age) from full families. Deprived children were retarded in all observed parameters to compare with control.

Investigation groups	Length M± m	Weight M± m	Language M± m	Gross motor M± m	Fine motor M± m	Social adaptation M± m
I	68,7±2,8	71,4±3,8	62,0± 4,1	70,5±7,7	64,7±9,0	62,8± 4,8
II	70,4±4,1	82,7±8,8	72,0± 7,1	78,4±1,1	74,2±1,3	76,1± 5,0
III	96,5±2,1	98,5±7,1	95,1± 5,5	90,8±1,2	92,8±1,1	87,2± 8,0

**Tab.1** Institutionalized infant's developmental quotient (DQ) before (I) and after (II) State Program implementation

## DISCUSSION

In the present work we demonstrated, that maternal deprivation and orphanage placement results in delayed physical, psychomotor and language development. So maternal deprivation can be considered as a stressful stimulus for infants. Some observations made it clear that adverse emotional factors delay the recovery of malnourished children [10]. Our data correlates with experimental data of numerous investigators, where there are confirmed the negative effect of maternal deprivation on offspring's behavior and growth.

Under the State Program of Medical Help to Children without Family Care the health state of deprived children was improved (see *Tab.1*) because of complex attitude to the problem of deprivation. There was elevated infant's developmental rate, intensity of weight and length gain, decreased morbidity rate. So the affective stimulations such as several amusing performances (puppet-show one or two times per year),

massages, the water procedures, medical students visits in combination with sufficient financial support of medical and rehabilitation measures, resulted in improvement of deprived infant's health state in orphanage. Received data correlates with the data of Kim TI et al. [8], who have shown, that multisensory intervention improves physical growth and illness rates in orphaned newborn infants. Nevertheless, the physical growth and developmental rate of deprived children remained much lower, than in children from full families. So, despite of the definite success caused by this special program, as it declared in the work of American investigators [11], the negative aspects of the institutional care couldn't be reduced to a tolerable level even with massive expenditures.

Thus, it seems more reasonable to direct the efforts predominantly to the prevention of children's institutionalization and support their deinstitutionalisation by reintegration with birth families or fosterage.

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## Эффективность государственной медицинской программы для детей, воспитывающихся в детских домах

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### РЕЗЮМЕ

Изучена эффективность государственной программы медицинской помощи детям, оставшихся без родительской заботы, включающая финансовую поддержку детских учреждений, медицинского обслуживания, психореабилитаций детей. Исследование проводилось в Тбилисском доме ребенка в течение 1993-2002 гг. Проведен ретроспективный анализ 856 медицинских анкет до и после внедрения государственной программы. Изучались следующие параметры: рост, вес, уровни психомоторного развития (по денверскому скрининг-тесту), заболеваемость. Уровень развития высчитывался по коэффициенту развития. Контрольную группу составили дети из полных семей, данные которых были получены из медицинских анкет в детских поликлиниках г.Тбилиси. Результаты исследования показали, что после внедрения государственной программы улучшились уровень социальной адаптации и развитие речи у детей: они стали общительнее, научились рассказывать о своих желаниях, ускорилось их физическое и психомоторное развитие в сравнении с предыдущими годами, однако при сравнении данных детей из детдома с данными контрольной группы выяснилось, что, несмотря на некоторое улучшение состояния здоровья после внедрения государственной программы, они по всем параметрам отстают от своих сверстников, воспитывающихся в семейной обстановке. Таким образом, полученные результаты подтвердили эффективность государственной программы по улучшению состояния здоровья детей в институциональных учреждениях. Поэтому считаем вполне резонным поддержку превенции институционализации детей и воспитания их в семейной обстановке.

**КЛЮЧЕВЫЕ СЛОВА:** государственная программа, институционализация развития детей, детский дом