It should be noted that the Medical Charter described specifics of professional responsibilities of medical ranks. Article 59 of the Medical Charter formulated such a rule: "When healthcare authorities recognize that a doctor has made important errors due to ignorance of his duties, he should be discharged from practice until he passes a new test and gets a certificate to prove his knowledge of the duties" [5, p. 185]. Thus, physicians could be dismissed from practice because of nonobservance of their professional duties.

Article 9 of the Medical Charter provided that "the loss of an instrument shall be recovered by physicians at a specified price; but dulling or damage of an instrument during the operation shall not involve any penalty" [5, p. 177]. So, this provision established the rule regarding physician's responsibility for damage or loss of medical tools.

The order of payment in the field of medical activity was regulated by a number of articles of the Medical Charter. According to the Article 167 of the Medical Charter "medical ranks shall be given salaries and service rights based on the staff scheduling and special provisions" [5, p. 197]. Article 268 of Medical Charter contained the following norm: "Physicians of state-owned establishments, receiving salary, shall be obliged to treat every patient without a fee for medical aid" [5, p. 210]. Article 269 of the Medical Charter contained the following provision on the same subject: "Physicians, receiving salary from the government, are prohibited to demand more payment than defined by law from the poor patients" [5, p. 210]. Article 275 of the Medical Charter determined the amount of payment to physicians "from the poor people" for providing different medical services. According to the Article 277 of the Medical Charter, "a physician who provided medical aid in difficult childbirth, shall take one ruble fifty kopecks as fee for his work from the poor; doctors who receive government salary shall provide medical aid in difficult childbirth to poor women without payment" [5, p. 210-211]. Payment terms from wealthy patients were defined by Article 276 of the Medical Charter: "Physicians are allowed to accept payment exceeding measure, referred to in Article 275 of this Charter, from wealthy people, who want to express their gratitude for medical service" [5, p. 210]. On the one hand, such salary system fixed possibility limits of taking additional fee from the poor; on the other hand, this system did not stimulate physicians to provide quality medical aid to the poor.

It is interesting that the order and payment of shift work were also settled by the Medical Charter. According to the Article 253 of the Medical Charter "county (district) physicians who provide medical aid in regions with shortage of county (district) physicians in addition to their main work shall get a double salary, if they execute their duties for more than a month, and, moreover, with due diligence and serviceability" [5, p. 203]. This provision shows that the reason to attract physicians to work overtime was the lack of staff physicians in the district, and the payment was given for overtime as double salary. Apart from stipulating additional payment for overtime work, Article 262 of the Medical Charter consolidated the right of a county physician for a paid duty journey: "if physician goes outside his official place on the urgent need, he shall be paid by funds in the form of daily allowance and for travel" [5, p. 208]. Article 262 of the Medical Charter specified that "physicians who are on duty journeys shall be paid by the establishments where they work" [5, p. 208].

The Medical Charter 1905 legally settled such important relationships as scientific and practical improvement and promotion of the physicians and other workers in the filed of healthcare. Article 595 of the Medical Charter stated: "Persons willing to receive medical, pharmaceutical or veterinary academic degrees, ranks and assigned rights must pass the test. The tests shall be taken in higher medical and educational institutions authorized by the government" [5, p. 251]. Article 607 of the Medical Charter determined the following "medical degrees and ranks: 1) scientific and practical: a) physician, b) doctor of medicine and surgery; 2) trained for service: district physician; 3)

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PEDIATRICS

Riga O.O.[1], Gonchar M.O.[1], Uryvayeva M.K.[1], Samsonenko V.I.[2], Shulga A.A.[1]

EVALUATION OF INFANT DEVELOPMENT USING A GUIDE FOR MONITORING CHILD DEVELOPMENT

Kharkiv National Medical University, Ukraine [1]
CSHC "Kharkiv Municipal Children Polyclinic No 2", Ukraine [2]

Abstract: The purpose of the study was to assess the main domains of child development in healthy infants of Novobavarsky district of Kharkiv (Ukraine) with the use of A GUIDE FOR MONITORING CHILD DEVELOPMENT (GMCD). The development of 100 children aged 0-42 months was evaluated. Developmental delay was assessed in standard deviations in comparison with the indices of the corresponding age. Developmental delay in 1 domain by -2σ was detected in 19 infants, in 2 domains – in 6, in 3 domains – in 1 and in 4 domains – in 1 infant. Developmental delay in 1 domain by -3σ was detected in 3 children. Besides, 2 infants had a considerably delayed development. Children born prematurely were shown to have statistically significant higher incidence rate of developmental delays in impressive language and play. In authors' opinion, the use of the GMCD allows to give medical recommendations on supporting communication skills and emotions development to parents, as well as to refer the families to early intervention service.

KeyWords: development, young children

INTRODUCTION

Pediatrics of development and behavior is one of the most important and perspective fields of pediatrics, dealing with monitoring and studying the child development in cognitive, communicative, socio-emotional, motor and adaptive spheres [1,2]. Pediatrics of development plays a key role in preservation of future population health, which is important from medical, social, and economic perspective, because economics of the country directly depends on the health level of its population [3]. In developed countries, the health care for children of different ages is at a high level; however, the majority of children of the world live in low-income countries, where the conditions of their life, levels of safety and health care do not promote their development. Such factors, as domestic violence, poverty, lack of appropriate attention exert a considerable influence on the child's upbringing [4]. The sooner these deviations are revealed and corrected, the less children will have serious developmental problems in future, when it is too late to correct them.

Corresponding Author:
Olena Riga, MD, PhD, Professor of Department of Pediatrics 1 and Neonatology of Kharkiv National Medical Univeristy, Ukraine. E-mail: yeletskayaelena@gmail.com

2 PURPOSES, SUBJECTS and METHODS:

2.1 Purpose

The purpose of the study was to assess the development of healthy infants in Novobavarsky district of Kharkiv according to main functional domains using GMCD for referring to early intervention service.

2.2 Subjects & Methods

Assessment of child development of infants aged 0-42 months involved the employment of GMCD [7]. The Guide is a standardized method of assessment, observation and supporting the child development. GMCD has been elaborated for 20 years at the University of Ankara according to the modern theories of child development. The Guide is based on the principles of bioecological theory of child development and the WHO's International Classification of Functioning, Disability and Health (ICF) with the use of family-centered approach.

The Guide consists of three components: 1) assessment of child development; 2) monitoring of the child development in infancy; 3) supporting the child development. The assessed developmental domains are expressive and impressive language, fine and gross motor functions, play, relationship, self-help skills. The GMCD consists of three components: 1) monitoring; 2) supporting

development; and 3) early intervention. Attention is also paid to domestic environment, risks and family decisions.

GMCD includes record data, developmental risks and plan of actions, 10 open-ended questions for parents about developmental domains of their children at the age of 1-2, 3-4, 5-6, 7-8, 9-11, 12-14, 15-17, 18-21, 22-25, 26-29, 30-35, 36-42 months and card for parents support.

During 2016, the development of 100 infants (45 boys and 54 girls) was assessed with GMCD scale. The infants were divided into groups depending on their age: 7 children aged 0-3 months, 6 aged 4-6 months, 27 aged 7-12 months, 18 aged 13-18 months, 7 aged 19-24 months, 12 aged 25-30 months, 13 aged 31-36 months, 10 aged 37-42 months. The parents were interviewed for 10-15 minutes at home, according to the requirements of the questionnaire. The results were assessed by root-mean-square deviation method. According to the methodology of the questionnaire, if a child reached all the indices of the column, corresponding to the child's age interval, the development was defined as standard. If a child reached several indices of the child's own age interval, and all the indices of the previous column (age interval), that was defined as -1σ. If a child was able to reach only the indices of the two age intervals, previous to the child's own one, that was defined as -2σ. If a child was able to complete only the requirements of the age intervals, located 2 and more columns far from the child's own age interval, that was defined as -3σ. If the development forestalls the child's own age interval, the development was assessed as +1σ, +2σ, +3σ.

3 RESULTS AND DISCUSSION

First of all, biological risk factors of development deviations, included in GMCD were detected (anemia (<105 g/l) in 6 infants, premature birth (before full 37 gestation weeks) in 6 infants, low birth weight (<2500g) in 7 infants, perinatal pathology or chronic diseases in 20 infants) among 100 children, whose parents were invited to complete the questionnaire. It should be noted, that 2 infants had very low birth weight (≤1500g). Table 1 presents the distribution of the child development indices by the main domains according to sex.

Table 1:

Absolute values of standard deviations in developmental domains in infants according to sex (n=100)

Developmental domain	-3σ	-2σ	-1σ	Standard	+1σ	+2σ	+3σ
Expressive language	B: 1 G: 2	B: 8 G:5	B:1 G:5	B: 28 G: 30	B: 5 G: 3	B: 3 G: 6	B: - G: 2
Impressive language	B: - G: 2	B: 4 G:2	B:2 G:2	B: 32 G: 38	B: 2 G: 4	B: 6 G: 4	B: - G: 2
Gross motor function	B: - G: -	B: 1 G:4	B:2 G:1	B: 35 G: 36	B: 3 G: 2	B: 5 G:11	B: - G: -
Fine motor function	B: - G: -	B: 1 G:4	B: - G:2	B: 40 G: 40	B: 2 G: 2	B: 3 G: 6	B: - G: -
Relationship	B: - G: -	B:3 G:2	B: - G:1	B: 34 G: 38	B: 4 G: 2	B: 5 G:11	B: - G: -
Play	B: - G: 1	B: 2 G:4	B:1 G:6	B: 33 G: 33	B: 5 G: 4	B: 5 G: 6	B: - G: -
Self-help skills	B: 1 G: -	B:1 G:3	B:1 G:1	B: 34 G: 41	B: 2 G: 1	B: 7 G: 8	B: - G: -

Note: B, boys; G, girls

Thus, development, described as -2σ and -3σ, in speech was ¬¬¬detected in 17% of infants, in language understanding – in 8% of infants, in gross motor function – in 5, in fine motor function – in 5%, in socio-emotional development – in 5%, in play – in 7%, in self-help skills – in 5% of infants. On the whole, developmental delay by -2σ in 1 domain was detected in 19 infants, in 2 domains – in 6, in 3 domains – in 1 and in 4 domains – in 1 infant. The developmental delay by -3σ in 1 domain was detected in 3 infants. Furthermore, 2 infants were found to have considerable developmental delay: one infant delayed development by -2σ in 2 domains and by -3σ in 2 another domains at the same time, and another infant had developmental delay by -2σ in 2 domains and by -3σ in 3 domains. These infants were born prematurely and were reported to have combined perinatal pathology: low birth weight, respiratory disorders and intrauterine growth retardation.

Numerous studies concerning remote effects of development and behavior of the children, born prematurely, detect lots of problems [8, 9, 10]. In total population of children, about 17% aged 0-18 years have developmental disorders; however, only 30% have them diagnosed before school [8]. The children born prematurely are in a special

risk group of developmental disorders; therefore the subsequent thorough surveillance after their discharge from obstetric hospitals and skilled training of specialists may decrease these risks [9]. Very preterm children have an increased incidence rate of cerebral paralysis [10].

In preterm children, 20% of them (p=0.1338) had developmental delay in expressive language by -1σ, 34% had delay in impressive language by -2σ, 17% delayed development in impressive language by -3σ (p=0,0001).

Delay in gross motor function by -2σ (p=0,1511) was detected in 17% of children, 17% delayed development in play domain by -3σ (p=0,073). However, 17% of children of the same group were found to forestall the level of development of their age in expressive and impressive language by +1σ and 17% – by +2σ.

In gross motor function and relationship 50% of children forestalled their age by +2σ. In play and self-help skills 34% of children forestalled their age by +2σ. Table 2 represents the distribution of standard deviations in main developmental domains in full-term child infants.

Table 2

Absolute values of standard deviations in developmental domains in full-term infants according to sex (n=94)

Developmental domain	-3σ	-2σ	-1σ	Standard	+1σ	+2σ	+3σ
Expressive speech, %	3 (3.2)	14 (14.9)	5 (5.3)	55 (58.5)	7 (7.4)	8 (8.5)	2 (2.1)
Impressive speech, %	1 (1.1)	5 (5.3)	4 (4.3)	68 (72.3)	5 (5.3)	9 (9.6)	2 (2.1)
Gross motor function,%	-	4 (4.3)	3 (3.2)	69 (73.4)	5 (5.3)	13 (13.8)	-
Fine motor function,%	-	5 (5.3%)	2 (2.1)	74 (78.7)	4 (4.3)	9 (9.6)	-
Relationship forming, %	-	5 (5.3)	1 (1.1)	69 (73.4)	6 (6.4)	12 (12.8)	-
Play, %	-	6 (6.4)	7 (7.4)	63 (67)	9 (9.6)	9 (9.6)	-
Self-dependence, %	1 (1.1)	4 (4.3)	2 (2.1)	71 (75.5)	3 (3.2)	13 (13.8)	-

Thus, children born prematurely had statistically significant developmental delay rate in impressive language, and that indicates socio-emotional development delay and may be a predictor of autism development in these children. Therefore, parents are offered to make parents' evaluation of developmental status arrangements, such as development of communicational skills and emotions.

Developmental delay in expressive language by -2σ was detected in 17% of children with anemia, as compared with 11.7% of children without anemia. In other domains (play and self-help skills) children with anemia showed either standard developmental levels or even higher ones as compared with their age intervals.

Thus, developmental delays in infants may be detected due to the use of the tool for parents' inquiry – "A Guide for Monitoring Child Development in Low- and Middle-Income Countries". Assessment of child development in developed countries showed 10-20% of infants with one or several developmental problems [5].

In 2005-2006, an investigation concerning the child development in 18 developing countries, showed, that 23% of children (from 3% to 38%, depending on the country) aged 2 to 17 years have developmental deviations [6]. The authors reported, that the assessment of the development of children aged 0-3 years old is the most difficult, however just that very age is the most favorable for the correction of the deviations.

A group of authors has made a universal questionnaire for parents - "A Guide for Monitoring Child Development in Low- and Middle-Income Countries" (GMCD). It is used by doctors and permits to assess the child's development and behavior, regardless of the country the children live in, and to detect the deviations in child development at early stages [7].

4 CONCLUSIONS

1. The use of GMCD allows to diagnose delays in main developmental domains in infants aged 0-42 months.
2. Among 100 infants, 19 delayed development in 1 domain, 6 – in 2 domains, 1 in 3 domains and 1 in 4 domains.
3. Infants born prematurely had statistically significant delay in impressive language and play.
4. The use of GMCD allows to give medical recommendations on supporting communication skills and emotions development to parents, as well as to refer the fami-

lies to the early intervention service.

The perspectives of the further studies should pertain to evaluation of children's development in larger populations.

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