GEORGIAN MEDICAL NEWS

ISSN 1512-0112

NO 2 (359) Февраль 2025

ТБИЛИСИ - NEW YORK

ЕЖЕМЕСЯЧНЫЙ НАУЧНЫЙ ЖУРНАЛ

Медицинские новости Грузии

საქართველოს სამედიცინო სიახლენი

GEORGIAN MEDICAL NEWS

Monthly Georgia-US joint scientific journal published both in electronic and paper formats of the Agency of Medical Information of the Georgian Association of Business Press. Published since 1994. Distributed in NIS, EU and USA.

GMN: Georgian Medical News is peer-reviewed, published monthly journal committed to promoting the science and art of medicine and the betterment of public health, published by the GMN Editorial Board since 1994. GMN carries original scientific articles on medicine, biology and pharmacy, which are of experimental, theoretical and practical character; publishes original research, reviews, commentaries, editorials, essays, medical news, and correspondence in English and Russian.

GMN is indexed in MEDLINE, SCOPUS, PubMed and VINITI Russian Academy of Sciences. The full text content is available through EBSCO databases.

GMN: Медицинские новости Грузии - ежемесячный рецензируемый научный журнал, издаётся Редакционной коллегией с 1994 года на русском и английском языках в целях поддержки медицинской науки и улучшения здравоохранения. В журнале публикуются оригинальные научные статьи в области медицины, биологии и фармации, статьи обзорного характера, научные сообщения, новости медицины и здравоохранения. Журнал индексируется в MEDLINE, отражён в базе данных SCOPUS, PubMed и ВИНИТИ РАН. Полнотекстовые статьи журнала доступны через БД EBSCO.

GMN: Georgian Medical News – საქართველოს სამედიცინო სიახლენი – არის ყოველთვიური სამეცნიერო სამედიცინო რეცენზირებადი ჟურნალი, გამოიცემა 1994 წლიდან, წარმოადგენს სარედაქციო კოლეგიისა და აშშ-ის მეცნიერების, განათლების, ინდუსტრიის, ხელოვნებისა და ბუნებისმეტყველების საერთაშორისო აკადემიის ერთობლივ გამოცემას. GMN-ში რუსულ და ინგლისურ ენებზე ქვეყნდება ექსპერიმენტული, თეორიული და პრაქტიკული ხასიათის ორიგინალური სამეცნიერო სტატიები მედიცინის, ბიოლოგიისა და ფარმაციის სფეროში, მიმოხილვითი ხასიათის სტატიები.

ჟურნალი ინდექსირებულია MEDLINE-ის საერთაშორისო სისტემაში, ასახულია SCOPUS-ის, PubMed-ის და ВИНИТИ РАН-ის მონაცემთა ბაზებში. სტატიების სრული ტექსტი ხელმისაწვდომია EBSCO-ს მონაცემთა ბაზებიდან.

WEBSITE

www.geomednews.com

К СВЕДЕНИЮ АВТОРОВ!

При направлении статьи в редакцию необходимо соблюдать следующие правила:

1. Статья должна быть представлена в двух экземплярах, на русском или английском языках, напечатанная через **полтора интервала на одной стороне стандартного листа с шириной левого поля в три сантиметра**. Используемый компьютерный шрифт для текста на русском и английском языках - **Times New Roman** (**Кириллица**), для текста на грузинском языке следует использовать **AcadNusx.** Размер шрифта - **12**. К рукописи, напечатанной на компьютере, должен быть приложен CD со статьей.

2. Размер статьи должен быть не менее десяти и не более двадцати страниц машинописи, включая указатель литературы и резюме на английском, русском и грузинском языках.

3. В статье должны быть освещены актуальность данного материала, методы и результаты исследования и их обсуждение.

При представлении в печать научных экспериментальных работ авторы должны указывать вид и количество экспериментальных животных, применявшиеся методы обезболивания и усыпления (в ходе острых опытов).

4. К статье должны быть приложены краткое (на полстраницы) резюме на английском, русском и грузинском языках (включающее следующие разделы: цель исследования, материал и методы, результаты и заключение) и список ключевых слов (key words).

5. Таблицы необходимо представлять в печатной форме. Фотокопии не принимаются. **Все цифровые, итоговые и процентные данные в таблицах должны соответствовать таковым в тексте статьи**. Таблицы и графики должны быть озаглавлены.

6. Фотографии должны быть контрастными, фотокопии с рентгенограмм - в позитивном изображении. Рисунки, чертежи и диаграммы следует озаглавить, пронумеровать и вставить в соответствующее место текста **в tiff формате**.

В подписях к микрофотографиям следует указывать степень увеличения через окуляр или объектив и метод окраски или импрегнации срезов.

7. Фамилии отечественных авторов приводятся в оригинальной транскрипции.

8. При оформлении и направлении статей в журнал МНГ просим авторов соблюдать правила, изложенные в «Единых требованиях к рукописям, представляемым в биомедицинские журналы», принятых Международным комитетом редакторов медицинских журналов - http://www.spinesurgery.ru/files/publish.pdf и http://www.nlm.nih.gov/bsd/uniform_requirements.html
В конце каждой оригинальной статьи приводится библиографический список. В список литературы включаются все материалы, на которые имеются ссылки в тексте. Список составляется в алфавитном порядке и нумеруется. Литературный источник приводится на языке оригинала. В списке литературы сначала приводятся работы, написанные знаками грузинского алфавита, затем кириллицей и латиницей. Ссылки на цитируемые работы в тексте статьи даются в квадратных скобках в виде номера, соответствующего номеру данной работы в списке литературы. Большинство цитированных источников должны быть за последние 5-7 лет.

9. Для получения права на публикацию статья должна иметь от руководителя работы или учреждения визу и сопроводительное отношение, написанные или напечатанные на бланке и заверенные подписью и печатью.

10. В конце статьи должны быть подписи всех авторов, полностью приведены их фамилии, имена и отчества, указаны служебный и домашний номера телефонов и адреса или иные координаты. Количество авторов (соавторов) не должно превышать пяти человек.

11. Редакция оставляет за собой право сокращать и исправлять статьи. Корректура авторам не высылается, вся работа и сверка проводится по авторскому оригиналу.

12. Недопустимо направление в редакцию работ, представленных к печати в иных издательствах или опубликованных в других изданиях.

При нарушении указанных правил статьи не рассматриваются.

REQUIREMENTS

Please note, materials submitted to the Editorial Office Staff are supposed to meet the following requirements:

1. Articles must be provided with a double copy, in English or Russian languages and typed or compu-ter-printed on a single side of standard typing paper, with the left margin of **3** centimeters width, and **1.5** spacing between the lines, typeface - **Times New Roman** (**Cyrillic**), print size - **12** (referring to Georgian and Russian materials). With computer-printed texts please enclose a CD carrying the same file titled with Latin symbols.

2. Size of the article, including index and resume in English, Russian and Georgian languages must be at least 10 pages and not exceed the limit of 20 pages of typed or computer-printed text.

3. Submitted material must include a coverage of a topical subject, research methods, results, and review.

Authors of the scientific-research works must indicate the number of experimental biological species drawn in, list the employed methods of anesthetization and soporific means used during acute tests.

4. Articles must have a short (half page) abstract in English, Russian and Georgian (including the following sections: aim of study, material and methods, results and conclusions) and a list of key words.

5. Tables must be presented in an original typed or computer-printed form, instead of a photocopied version. **Numbers, totals, percentile data on the tables must coincide with those in the texts of the articles.** Tables and graphs must be headed.

6. Photographs are required to be contrasted and must be submitted with doubles. Please number each photograph with a pencil on its back, indicate author's name, title of the article (short version), and mark out its top and bottom parts. Drawings must be accurate, drafts and diagrams drawn in Indian ink (or black ink). Photocopies of the X-ray photographs must be presented in a positive image in **tiff format**.

Accurately numbered subtitles for each illustration must be listed on a separate sheet of paper. In the subtitles for the microphotographs please indicate the ocular and objective lens magnification power, method of coloring or impregnation of the microscopic sections (preparations).

7. Please indicate last names, first and middle initials of the native authors, present names and initials of the foreign authors in the transcription of the original language, enclose in parenthesis corresponding number under which the author is listed in the reference materials.

8. Please follow guidance offered to authors by The International Committee of Medical Journal Editors guidance in its Uniform Requirements for Manuscripts Submitted to Biomedical Journals publication available online at: http://www.nlm.nih.gov/bsd/uniform_requirements.html
http://www.icmje.org/urm_full.pdf
In GMN style for each work cited in the text, a bibliographic reference is given, and this is located at the end of the article under the title "References". All references cited in the text must be listed. The list of references should be arranged alphabetically and then numbered. References are numbered in the text [numbers in square brackets] and in the reference list and numbers are repeated throughout the text as needed. The bibliographic description is given in the language of publication (citations in Georgian script are followed by Cyrillic and Latin).

9. To obtain the rights of publication articles must be accompanied by a visa from the project instructor or the establishment, where the work has been performed, and a reference letter, both written or typed on a special signed form, certified by a stamp or a seal.

10. Articles must be signed by all of the authors at the end, and they must be provided with a list of full names, office and home phone numbers and addresses or other non-office locations where the authors could be reached. The number of the authors (co-authors) must not exceed the limit of 5 people.

11. Editorial Staff reserves the rights to cut down in size and correct the articles. Proof-sheets are not sent out to the authors. The entire editorial and collation work is performed according to the author's original text.

12. Sending in the works that have already been assigned to the press by other Editorial Staffs or have been printed by other publishers is not permissible.

Articles that Fail to Meet the Aforementioned Requirements are not Assigned to be Reviewed.

ავტორთა საყურადღებოდ!

რედაქციაში სტატიის წარმოდგენისას საჭიროა დავიცვათ შემდეგი წესები:

1. სტატია უნდა წარმოადგინოთ 2 ცალად, რუსულ ან ინგლისურ ენებზე,დაბეჭდილი სტანდარტული ფურცლის 1 გვერდზე, 3 სმ სიგანის მარცხენა ველისა და სტრიქონებს შორის 1,5 ინტერვალის დაცვით. გამოყენებული კომპიუტერული შრიფტი რუსულ და ინგლისურენოვან ტექსტებში - **Times New Roman (Кириллица)**, ხოლო ქართულენოვან ტექსტში საჭიროა გამოვიყენოთ **AcadNusx.** შრიფტის ზომა – 12. სტატიას თან უნდა ახლდეს CD სტატიით.

2. სტატიის მოცულობა არ უნდა შეადგენდეს 10 გვერდზე ნაკლებს და 20 გვერდზე მეტს ლიტერატურის სიის და რეზიუმეების (ინგლისურ, რუსულ და ქართულ ენებზე) ჩათვლით.

3. სტატიაში საჭიროა გაშუქდეს: საკითხის აქტუალობა; კვლევის მიზანი; საკვლევი მასალა და გამოყენებული მეთოდები; მიღებული შედეგები და მათი განსჯა. ექსპერიმენტული ხასიათის სტატიების წარმოდგენისას ავტორებმა უნდა მიუთითონ საექსპერიმენტო ცხოველების სახეობა და რაოდენობა; გაუტკივარებისა და დაძინების მეთოდები (მწვავე ცდების პირობებში).

4. სტატიას თან უნდა ახლდეს რეზიუმე ინგლისურ, რუსულ და ქართულ ენებზე არანაკლებ ნახევარი გვერდის მოცულობისა (სათაურის, ავტორების, დაწესებულების მითითებით და უნდა შეიცავდეს შემდეგ განყოფილებებს: მიზანი, მასალა და მეთოდები, შედეგები და დასკვნები; ტექსტუალური ნაწილი არ უნდა იყოს 15 სტრიქონზე ნაკლები) და საკვანძო სიტყვების ჩამონათვალი (key words).

5. ცხრილები საჭიროა წარმოადგინოთ ნაბეჭდი სახით. ყველა ციფრული, შემაჯამებელი და პროცენტული მონაცემები უნდა შეესაბამებოდეს ტექსტში მოყვანილს.

6. ფოტოსურათები უნდა იყოს კონტრასტული; სურათები, ნახაზები, დიაგრამები - დასათაურებული, დანომრილი და სათანადო ადგილას ჩასმული. რენტგენოგრამების ფოტოასლები წარმოადგინეთ პოზიტიური გამოსახულებით **tiff** ფორმატში. მიკროფოტოსურათების წარწერებში საჭიროა მიუთითოთ ოკულარის ან ობიექტივის საშუალებით გადიდების ხარისხი, ანათალების შეღებვის ან იმპრეგნაციის მეთოდი და აღნიშნოთ სურათის ზედა და ქვედა ნაწილები.

7. სამამულო ავტორების გვარები სტატიაში აღინიშნება ინიციალების თანდართვით, უცხოურისა – უცხოური ტრანსკრიპციით.

8. სტატიას თან უნდა ახლდეს ავტორის მიერ გამოყენებული სამამულო და უცხოური შრომების ბიბლიოგრაფიული სია (ბოლო 5-8 წლის სიღრმით). ანბანური წყობით წარმოდგენილ ბიბლიოგრაფიულ სიაში მიუთითეთ ჯერ სამამულო, შემდეგ უცხოელი ავტორები (გვარი, ინიციალები, სტატიის სათაური, ჟურნალის დასახელება, გამოცემის ადგილი, წელი, ჟურნალის №, პირველი და ბოლო გვერდები). მონოგრაფიის შემთხვევაში მიუთითეთ გამოცემის წელი, ადგილი და გვერდების საერთო რაოდენობა. ტექსტში კვადრატულ ფჩხილებში უნდა მიუთითოთ ავტორის შესაბამისი N ლიტერატურის სიის მიხედვით. მიზანშეწონილია, რომ ციტირებული წყაროების უმეტესი ნაწილი იყოს 5-6 წლის სიღრმის.

9. სტატიას თან უნდა ახლდეს: ა) დაწესებულების ან სამეცნიერო ხელმძღვანელის წარდგინება, დამოწმებული ხელმოწერითა და ბეჭდით; ბ) დარგის სპეციალისტის დამოწმებული რეცენზია, რომელშიც მითითებული იქნება საკითხის აქტუალობა, მასალის საკმაობა, მეთოდის სანდოობა, შედეგების სამეცნიერო-პრაქტიკული მნიშვნელობა.

10. სტატიის ბოლოს საჭიროა ყველა ავტორის ხელმოწერა, რომელთა რაოდენობა არ უნდა აღემატებოდეს 5-ს.

11. რედაქცია იტოვებს უფლებას შეასწოროს სტატია. ტექსტზე მუშაობა და შეჯერება ხდება საავტორო ორიგინალის მიხედვით.

12. დაუშვებელია რედაქციაში ისეთი სტატიის წარდგენა, რომელიც დასაბეჭდად წარდგენილი იყო სხვა რედაქციაში ან გამოქვეყნებული იყო სხვა გამოცემებში.

აღნიშნული წესების დარღვევის შემთხვევაში სტატიები არ განიხილება.

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Содержание:

GEORGIAN MEDICAL NEWS
No 2 (359) 2025

THE SOCIODEMOGRAPHICAL AND MORPHOLOGICAL CHARACTERISTICS OF PRESCHOOL CHILDREN WITH SIDEROPENIC ANEMIA IN THE KOSOVO SAMPLE

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Abstract.

Although anemia remains a widespread public health problem in most developing and developed countries, there are very few studies on the prevalence and severity of anemia among school-age children. In this research we examined the socio-demographic and morphometric characteristics of Kosovar preschool children with sideropenic anemia.

The prospective study was carried out at the Department of Hemato-Oncology, Pediatric Clinic, University Clinical Center of Kosovo. The study included 244 children with sideropenic anemia and 99 non-anemic controls, ranging in age from one to 72 months.

Children with sideropenic anemia had a higher prevalence of positive history of mothers with anemia, had a lower RBC, HGB, HTC, MCV and Iron values compared to children without anemia ($p<0.05$). Children with sideropenic anemia who had hypotrophic body structure had a lighter body weight at birth, also a lower prevalence of underweight and premature birth ($p<0.05$). There was no statistical difference between males and females of children with sideropenic anemia on RBC count, MCV, HCT, Le, platelet, reticulocytes, and serum ferritin ($p>0.05$).

In conclusion, we can say that almost half of the children with sideropenic anemia had their mothers with a positive history of anemia. However, there are no differences in gender base on morphologic and hematological parameters among children with sideropenic anemia.

Key words. Sideropenic anemia, kosovar, children.

Introduction.

Anemia is a global public health issue with negative consequences for human health, social and economic development [1,2]. Sideropenic anemia is a condition in which the body lacks iron. It is characterized by a defect in hemoglobin synthesis, which results in a decrease in the number of erythrocytes (microcytes) and a decrease in the amount of hemoglobin (hypochromia). Because of specific metabolic needs related to growth and development, sideropenic anemia is the most common anemia in children [3-5].

Iron deficiency anemia is particularly common among infants, children, and adolescents in low- and middle-income countries [6]. Infants have the highest prevalence of iron deficiency anemia [7]. Globally, anemia affects more than 1.6 billion of the population, and over 45% of the preschool children is estimated to suffer from this disease [8-10]. Despite iron therapy, infants with severe iron deficiency anemia are not able to achieve the same level of development as infants without iron deficiency and without iron deficiency anemia [11]. Anemia in general is estimated to be the direct cause of 134,000 deaths in young children each year [11].

The rapid development and high nutritional requirements during the second half of life, together with the reduction of prenatal iron reserves, and malnutrition, creates vulnerability for children underage of 5 [7,12,13]. Iron deficiency in childhood can be even associated with impaired function during the school years [14,15].

Anemia can often be diagnosed with a detailed history, although laboratory tests are needed to confirm the diagnosis [12,16-18].

In developing countries, iron requirements in infants and young children have been met by fortifying a variety of iron-rich foods, including cornmeal, soy sauce, fish sauce, and rice [12,19-22].

Although anemia remains a widespread public health problem in most developing and developed countries, there are very few studies on the prevalence and severity of anemia among school-age children. The purpose of this study is to compare the socio-demographic and morphometric characteristics of Kosovar preschool children with sideropenic anemia to those of non-anemic children of the same age.

Methodology.

This prospective study was carried out at the Department of Hemato-Oncology, Pediatric Clinic, University Clinical Center of Kosovo with the 244 anemic children (140 males and 104 females), and 99 non-anemic controls (56 males and 43 females) ranging in age from one to 72 months who have applied for medical treatment in the clinic. Children with other concomitant diseases, in addition to anemia, were excluded from the study. Parents or guardians were informed about the research in advance, and their written consent was obtained for the examination results to be used in the research as well. The study protocol fully complies with the guidelines for human studies and is ethically in accordance with the Declaration of Helsinki.

In addition, a questionnaire containing socio-demographic information such as age, gender, living setting, mother's anemia, birth weight, and prematurity status at birth was obtained through an interview with the child's parent or guardian. In the examination of body weight, the children were with minimal thin clothes. Body structure and nutritional status of children was calculated based on growth curves of WHO Child Growth Standards [23]. To determine the anemia, venous blood was taken in a quantity of 2 ml and processed with the CELL COUNTER AI 134 analyzer at the Institute of Clinical Biochemistry and with the E-lab apparatus.650 by the method of photometry.

Anemia was defined as hemoglobin level <11.0 g/dl. We have selected 10 µg / L as the cutoff for ferritin serum to comply with the current National Health and Nutrition Examination Survey

(NHANES) on the prevalence of iron deficiency in the US. The cut off for transferrin saturation was also selected from the NHANES report (Control & Prevention, 2002) [24].

Data were summarized with mean and standard deviation (SD) or with frequency (n) and percentage (%). Testing of categorical variables was done with chi-square ($\chi 2$) test, while continuous ones with t-test. Data processing was done with the statistical package SPSS v21. The value of P <0.05 was considered statistically significant.

Results.

There was no statistically significant difference on gender distribution and the age among children with sideropenic anemia and those without anemia (p>0.05). 65.2% of children with sideropenic anemia were living in an urban setting. 14% had a premature birth, and 29% were underweight at birth (Table 1). Children with sideropenic anemia had a higher prevalence of positive history of mothers with anemia compared to children without anemia (p<0.05) (Table 1). Children with sideropenic anemia had a lower RBC, HGB, HTC, MCV and Iron values compared to non-anemic counterparties (p<0.05) (Table 2). Children with sideropenic anemia who had hypotrophic body structure had a lighter body weight at birth, also a lower prevalence of underweight and premature birth (p<0.05) (Table 3). There was no statistically significant difference between male and female anemic children based on their morphologic construction, types of feeding, and time when the artificial feeding started (p>0.05). There was no statistical difference between males and females of children with sideropenic anemia on RBC count, MCV, HCT, Le, platelet, reticulocytes, and serum ferritin (p>0.05) (Table 4).

Discussion.

In this research we aimed to examine the socio-demographic and morphometric characteristics of Kosovar preschool children with and without sideropenic anemia.

According to UNICEF data, the prevalence of sideropenic anemia is twice as high in rural areas as in urban areas [25]. Aydinok's research found that 66.7% of children with sideropenic anemia came from the village [26]. While in our research it was seen that 34.8% of children with anemia and 47% of them non anemia were living in rural areas.

The authors Huzjak, and Osorio et al., have shown in their researchs that the predisposing factor for the occurrence of sideropenic anemia are children with low body mass at birth, and premature babies [27].

In our research it was found that 29.1% of children with sideropenic anemia had low body mass at birth, and only 14.3% were born prematurely. Compared to non-anemia group where only 7% were underweight at birth and 5% were born premature.

Warier and Dole emphasizes that anemia is common in all three degrees of hypotrophy that is equally associated with iron deficiency, and with the prevalence of concomitant infections, but also depends on diet [28]. However, in our research it was seen that 57% of children with sideropenic anemia and 67% of them without anemia were well fed and were eutrophic. In our study we found that children with sideropenic anemia who had hipotrofic body structure were lighter even in weight at birth.

WHO estimates that 42% of all women and 52% of pregnant women in developing countries are anemic and half of them have iron deficiency anemia [7,25]. In our research it was found that 47.1% of children with sideropenic anemia and 27% of

Table 1. Sociodemographic characteristics of study sample.

	Children with anemia (n=244) Mean±SD or n(%)	Children without anemia (n-99) Mean±SD or n(%)	p
Age (months)	19.2±13.7	23.7±16.7	0.064
Weight (kg)	10.7±3.5	12.2±4.7	0.010
Weight at birth (g)	2973.5±635.1	3405.7±547.8	<0.0001
Living setting Urban Rural	 159(65.2) 85(34.8)	 52(52.5) 47(47.5)	0.0003
Premature birth Yes No	 35(14.3) 209(85.7)	 5(5.1) 94(94.9)	0.015
Underweight at birth Yes No	 71(29.1) 173(70.9)	 7(7.1) 92(92.9)	<0.0001
Positive history of mother with anemia Yes No	 115(47.1) 129(52.9)	 27(27.3) 72(72.7)	0.001
Nutritional status Eutrophic Hypotrophic	 139(57.0) 105(43.0)	 67(67.7) 32(32.3)	0.086
Nutritional modalities Natural Artificial Mixed	 200(82.0) 42(17.2) 2(0.8)	 93(83.9) 5(5.1) 1(1.04)	0.003
Time of starting the artificial nutrition (months)	5.0±2.2	4.0±2.1	0.079

Table 2. Hematological parameters of study sample based on anemia status of the children.

	Children with anemia (n=244) Mean±SD or n(%)	Children without anemia (n-99) Mean±SD or n(%)	p
Red blood cell (10^{12}/L)	3.8±0.9	4.4±0.4	<0.0001
Hemoglobin (g/L)	61.0±34.4	118.7±23.6	<0.0001
Mean cell volume (fl)	65.4±13.0	83.2±4.4	<0.0001
Hematocrit (%)	24.4±5.9	34.8±2.7	<0.0001
Iron (micromole/L)	6.2±2.6	15.8±5.6	<0.0001

Table 3. Demographic and blood parameters of children with sideropenic anemia based on morphologic characteristics.

	Eutrophic* (n=139) Mean±SD or n(%)	Hipotrophic** (n=105) Mean±SD or n(%)	p
Age (months)	18.9±14.8	19.5±12.2	0.763
Weight (kg)	11.4±3.8	9.8±2.9	0.001
Weight at birth (g)	3141.2±579.4	2751.5±640.0	<0.0001
Living setting Urban Rural	 99(40.6) 40(16.4)	 60(24.6) 45(18.4)	0.030
Premature birth Yes No	 129(52.9) 10(4.1)	 80(32.8) 25(10.2)	<0.0001
Underweight at birth Yes No	 113(46.3) 26(10.7)	 60(24.6) 45(18.4)	<0.0001
Positive history of mother with anemia Yes No	 71(29.1) 68(27.9)	 58(23.8) 47(19.3)	0.605
Nutritional modalities Natural Artificial Mixed	 115(47.1) 22(9.0) 2(0.8)	 85(34.8) 20(8.2) 0(0.0)	0.268
Time of starting the artificial nutrition (months)	4.9±2.1	4.9±2.2	0.913

Table 4. Hematological parameters of children with sideropenic anemia by gender differences.

	Male Mean±SD	Female Mean±SD	p
Red blood cell (10^{12}/L)	3.77±0.86	3.79±0.97	0.895
Hemoglobin (g/L)	62.96±33.70	58.33±35.34	0.299
Mean Cell Volume (fl)	66.27±13.23	64.26±12.61	0.231
Hematocrit (%)	24.86±5.28	23.74±6.52	0.141
Iron (micromole/L)	6.22±2.64	6.23±2.62	0.969
Leukocytes (10^{9}/L)	10.95±6.28	10.63±5.42	0.679
MCH (pg)	21.94±4.86	21.72±5.11	0.734
MCHC (g/L)	275.11±65.26	271.75±59.74	0.681
Platelets (10^{9}/L)	336.01±120.96	335.81±138.60	0.990
Reticulocyte (%)	8.06±5.21	7.75±4.58	0.624
Ferritin (ng/mL)	57.40±48.64	54.20±22.15	0.533

them without anemia also had a positive history of mothers with anemia.

Food-based nutritional strategies, such as a varied diet and fortification with iron salts, appear to be the most cost-effective solutions in preventing sideropenic anemia [5]. Iron fortification of the milk formula should also be done to prevent sideropenic anemia [29,30].

Finally, we can say that about two-thirds of children with anemia were living in an urban setting, about one-third were underweight at birth. Almost half of the children with sideropenic anemia had their mothers with a positive history of anemia. However, there are no differences in gender base on morphologic and hematological parameters among children with sideropenic anemia.

Preventive measures which include preventing premature birth, exclusive breastfeeding in the first 6 months, giving solid foods containing iron in addition to breast milk, avoiding the consumption of cow's milk before one year of age and the use of fortified iron formulas if formula milk is to be used instead of breast milk may help reduce the prevalence of sideropenic anemia among Kosovar children.

Conclusion.

In conclusion, we can say that almost half of the children with sideropenic anemia had their mothers with a positive history of anemia. However, there are no differences in gender base on morphologic and hematological parameters among children with sideropenic anemia.

Conflict of interest statement.

The authors have no conflicts of interest to declare.

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