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Toilet Training of Children from the General Population and From Families with a High Social and Economic Status. Comparative Research

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Goal*: to compare the main parameters of toilet skills formation in between children of the common population and those from families with a high social and economic status.* ***Methods****: 1068 parents with children 2–5 years of age were questioned using a specially developed questionnaire.* ***Results****: 1012 children from the common population (CP) and 56 children from families with a relatively high economic and social status (RHESS) were studied. The average age at the beginning of toilet training appeared to be the same 15,17 ± 0,23 months (CP) and 15,6 ± 0,8 months (RHESS). In the CP group 29.5% of parents started toilet training before their children reached the age of 1 year — which is twice more often than in the RHESS group. The RHESS children finish toilet training approx. 1.9 months earlier. The overall training turned out to be shorter in the RHESS group by more than 2 months: 10,5 ± 0,6 against 12,88 ± 0,41 months ($p < 0,05$). Serious differences were discovered in the teaching methods: parents from the CP group are more inclined towards forced placement of the child onto the pot and to more active actions demonstrating at the same time more variety in methodology, while in the RHESS group the methodology is more homogeneous with techniques oriented at the child's choice and a moderate parental activity are dominating.* ***Conclusion****. The methods of child toilet training in families with a high economic and social status are different from those most popular in the general population. The training in the RHESS group is slightly faster and is concluded earlier.*
Key words*: children, toilet training, hygiene skills, toilet skills, families with a high social and economic status.*
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JUSTIFICATION

Toilet training in children is a complex socio-medical problem that affects the interests of many people: parents, psychologists, teachers, doctors of several specialties, diaper manufacturers [1]. Toilet skills are based on processes of psychomotor, physical and somatic maturity, but their formation is largely dependent on socio-economic and cultural traditions that influence the position of parents on this issue [1-5]. Foreign studies have shown the dependence of child toilet training parameters on socio-cultural factors [6,

7]. However, scientific interest on this issue is not limited to a statement of fact that socio-economic conditions affect toilet training. It is important to detail the factors and to determine the impact nature of each factor in this process. Only with this in mind, the pediatric community can develop a responsible attitude, which is adequate with implementing practical toilet training recommendations consistent with child health care.

In 2010 the first Russian retrospective study of toilet training in children from the Moscow agglomeration was conducted in our Center. The results of this study are presented in publications [8, 9]. The study established the basic time parameters of toilet skills formation, their connection with neuro-psychiatric, somatic, social and family factors. Thus, a link between toilet training and a number of sociocultural and economic factors was determined: training was less successful in children whose mothers had lower levels of education, in families with a material and financial situation of below-average, in single-parent families and in families with sibling twins. However, the study had certain limitations and opportunities for concealing the truth or the expected answer to the issues of financial and material sphere: it was originally aimed at the common population, so it was difficult to attribute these respondents by their responses to separate groups of families with particular socio-economic status and thereby make a comparative group analysis. In this regard, there arose a question of further studying for a more complete and accurate disclosure of the toilet training dependence on the social component issue. It was decided to continue the investigation and to hold its 2nd stage, using the same tools (questionnaires) on a selected group of children from families with a higher socio-economic status. Socio-economic status is a complex notion, and its influence on psychological development and well-being is complex and mediated [10].

To select the children in this group, some essential criteria are needed. These criteria, on one hand, should show a high material prosperity, a high level of domestic comfort and a certain social status of the family, and on the other - must not be based on the opinions of the respondents about themselves, but be confirmed by documents. These conditions correspond to families, concluding costly agreements on medical supervision of their children for a long period: a high solvency and care for the baby's health allows to conditionally include these families into a group with a relatively high socio-economic status. Thus, we were able to identify a group of families with a special socio-economic status, which made it possible to rely on a comparative research with the common population group.

The object of the second phase of the study: to compare the main parameters of toilet training in children from common population families (determined during the first phase of the study) and children from families with a higher socio-economic status (determined during the second phase of the study). This article presents the results of the second phase of the study.

RESEARCH METHODS

The study design is shown in Fig. 1.

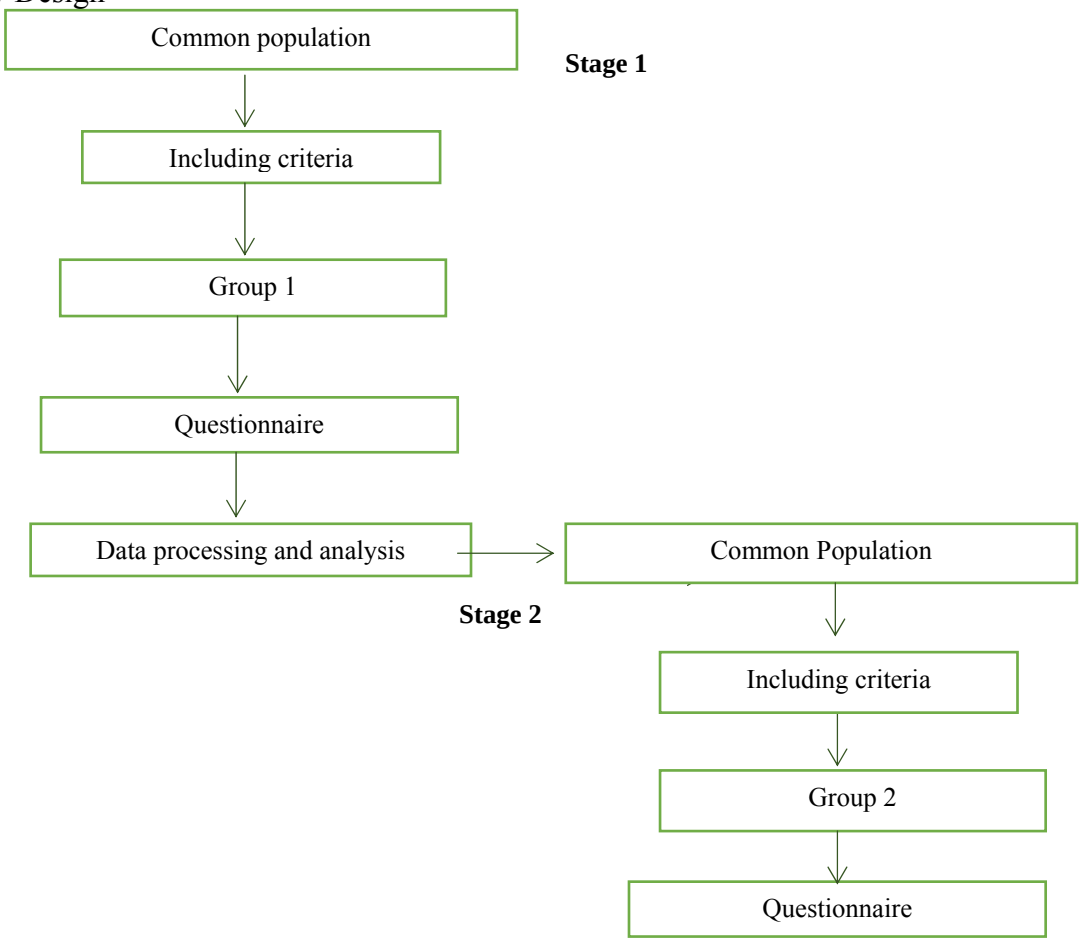
Conformity Criteria. The first group of studies - general population - includes healthy children aged 2 to 5 years from families living in Moscow and not far from the city; not suffering from mental and / or speech delays, as well as chronic disabling diseases. Participants from the second group (children from families with a higher socio-economic status) were determined by additional criteria:

- living space of more than 100m^2;
- child medical supervision contract costing more than 100 thousand rubles per year.

The presence of a large residential area is what we attribute to one of the basic high socio-economic status indicators for a family. A medical surveillance contract with the

SCCH costing over 100 thousand rubles per year is a documented evidence of the high economic potential, and to a certain extent - of a high social status of the family, which has a priority – the health of their child. SCCH specialists visit these children at their homes, which guarantees the stated amounts of living space. The technical condition of admission to the research was to register the respondents' passport data.

Fig. 1. Study Design



Conditions of questioning. The questioning research was held on the base of the FSBI SCCH Research Institute of Preventive Pediatrics and Rehabilitation Treatment (Research Institute of PPRT), Moscow. The venue for the survey were kindergartens and the SCCH Research Institute of PPRT consultative-diagnostic center.

The duration of the survey. The study was conducted in stages:

- I - from 01.02.2011 to 31.07.2011;
- II - from 01.12.2012 to 30.06.2013.

Description of medical intervention. The study was conducted using a selective questioning of 1140 respondents (parents) on the toilet training of their children. The received information was registered in a specially designed questionnaire. The typical questionnaire was developed by the FSBI NCCH research institute of PPRT cognitive pediatrics department employees with the participation of an expert group from the Union of pediatricians of Russia. The questionnaire contained 54 questions. As a result of accuracy monitoring, 1068 questionnaires were admitted into the survey.

Subgroup analysis. During the research the participants were divided into 2 groups. Ggroup number 1 contained children from the common population – CP group. The main analysis was conducted in this group. The second group of participants contained

members of families with a higher socioeconomic status (HSES). Further analysis was conducted in this group. Also, a comparative analysis of the groups was conducted.

Ethical review. Respondents received complete information about the study and gave their informed and voluntary consent to participate by signing the informed consent.

Statistical analysis. Statistical analysis was performed using Statistica software. Statistical significance of the results was assessed using the Mann-Whitney, Kruskal-Wallis, Wilcoxon, Chi-square (χ^2) criteria.

RESULTS

Characteristics of the study participants

Group number 1 (CP group) included 1012 participants, group number 2 (HSES) - 56.

The age structure of the study participants and their parents in two groups are comparable (Table. 1), gender structure is slightly different (Table. 2), which, apparently, is random, considering the small number of participants in the second group.

In Group 1 the toilet skills were already fixed in 86.4% of children (9.8% had formed no urinating skill, and 10.1% - no defecation skill) by the time of the survey. In Group 2 toilet skills were formed in 100% of children by the time of the survey.

Slight differences in the gender structure and skills formation structure present by the time of the survey can cause some limitations in the interpretation of research results.

Both groups were comparable in terms of the place of residence and family completeness (Table 3, 4).

Table 1. *The average age of study participants and their parents (%)*

Parameters	**Group 1**	**Group 2**
The child's age, years	4,6 ± 0,1	4,5 ± 0,2
The mother's age, years	33 ± 0,4	34 ± 1,0
The father's age, years	36 ± 0,4	38 ± 1,0

Table 2. *Gender structure of the compared groups (%)*

Gender	**Group 1**	**Group 2**
Girls	45	60.7
Boys	55	39.3
Total	100	100

Table 3. *The place of living structure of groups (%)*

Places of living	**Group 1**	**Group 2**
Moscow	90.3	94.6
City in the Moscow District with a population of up to 100 thousand residents	9.7	5.4
Total	100	100

Table 4. *Structure of the groups by the family composition (%)*

Type of family	**Group 1**	**Group 2**
Full	90.4	94.6
Incomplete	9.6	5.4
Total	100	100

Groups differed diametrically in the families' provision with living rooms (Fig. 2) and financial possibilities of acquiring goods (Fig. 3), which shows the root condition of their delimitation - different socio-economic status, - and also confirms the effectiveness of the criteria for selecting the participants for the second group.

Fig. 2. *The number of habitable rooms in the flats / houses of families participating in the research*

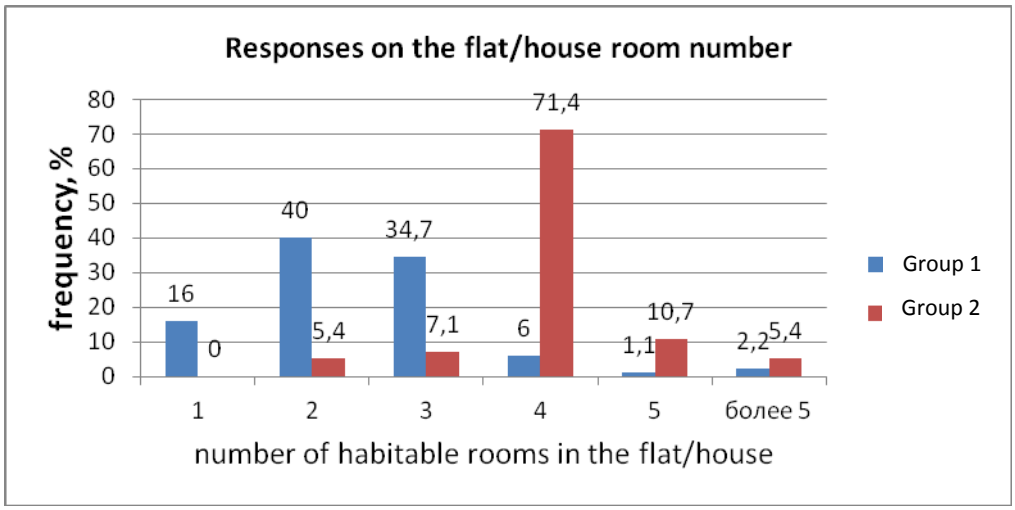
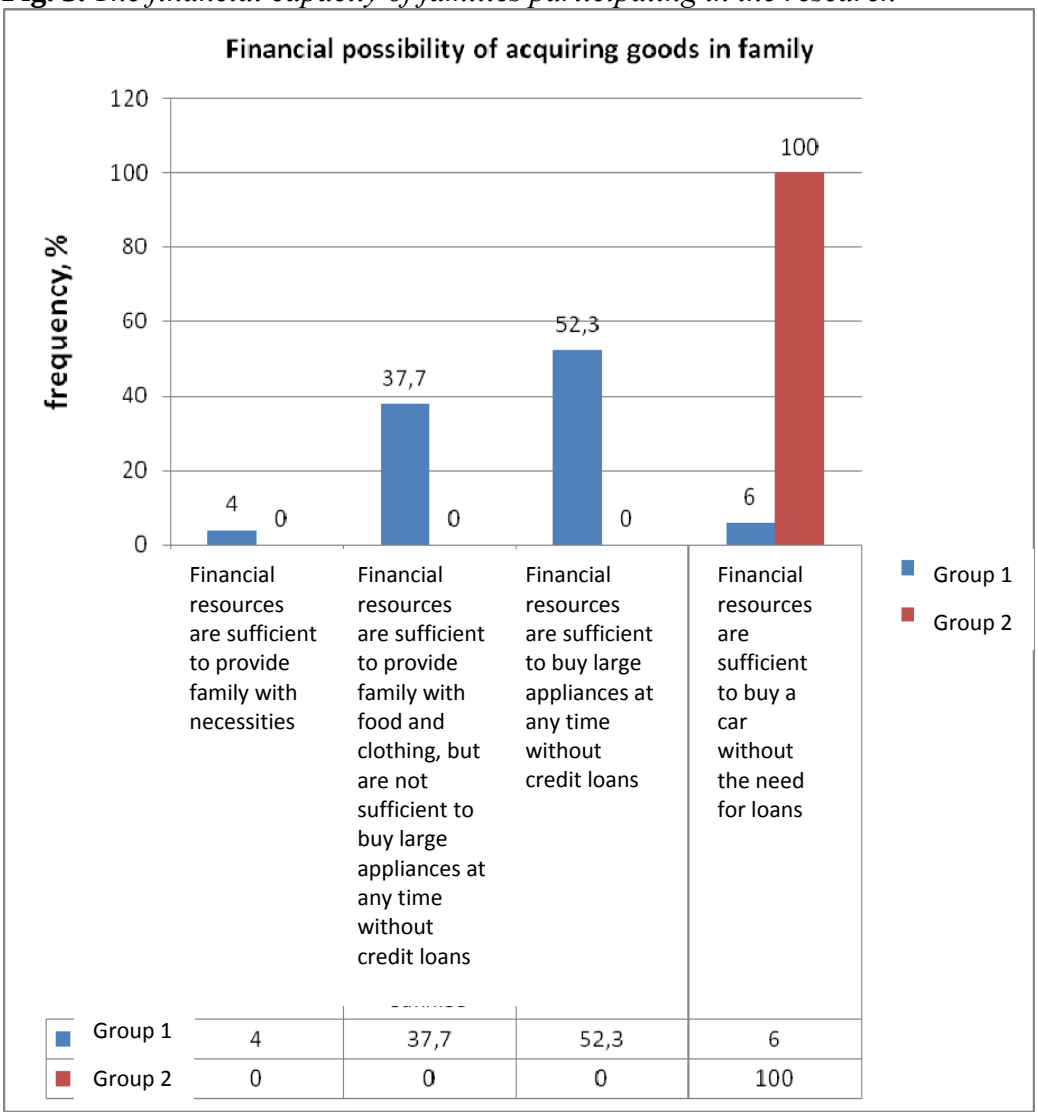


Fig. 3. *The financial capacity of families participating in the research*



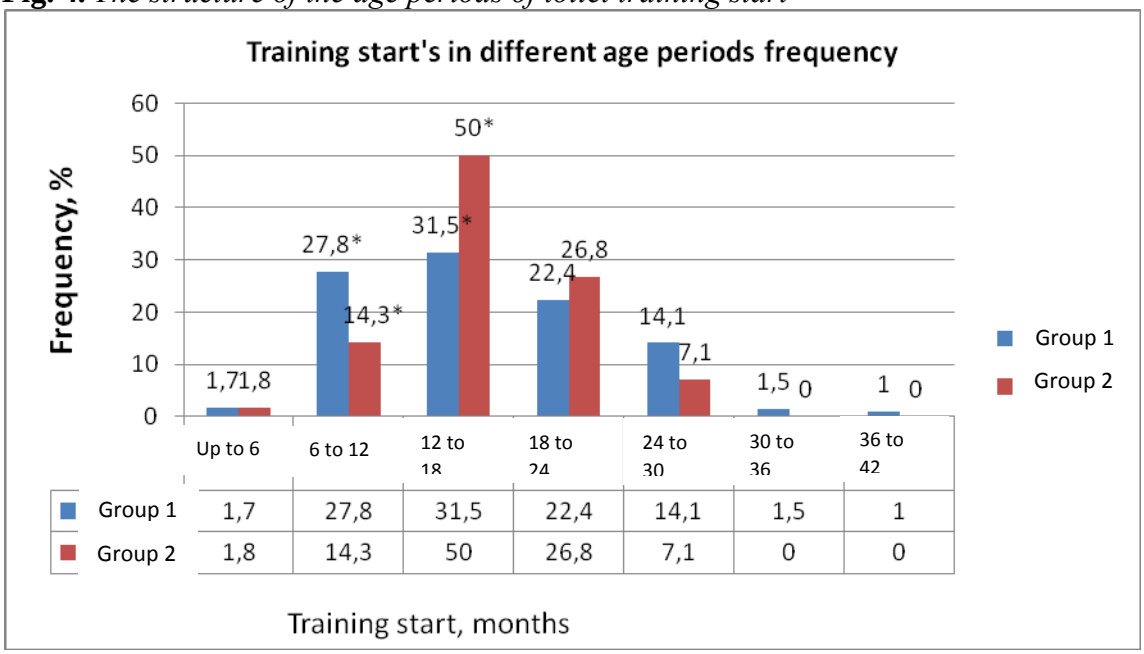
Key results

Starting toilet training

The average age of a child at the start of toilet training in group № 1 was 15,17 ± 0,23 months; in group № 2 - 15,6 ± 0,8 months. We took into account only those cases when parents had been teaching their children systematically. There were no gender differences in terms of indicators in group № 1, and there were gender differences in group № 2 (girls' education started at the age of 16,1 ± 1,1, and boy's - at 14,8 ± 1,1 months), but because of its unreliability, the data of toilet training start needs no adjustment.

The average age does not reflect all the nuances of starting toilet training, so a further time periodization analysis was held (Fig. 4).

Fig. 4. *The structure of the age periods of toilet training start*



	Up to 6	6 to 12	12 to 18	18 to 24	24 to 30	30 to 36	36 to 42
Group 1	1,7	27,8	31,5	22,4	14,1	1,5	1
Group 2	1,8	14,3	50	26,8	7,1	0	0

Note. * - *P <0.05.*

The following differences were observed: training in group 1 started almost twice as likely from 6 to 12 months, while in group 2 training started more than 1.5 times more likely from 12 to 18 months. Thus, despite identical mean values, generally parents from the common population group start toilet training in before the children reach 1 year of age, while the parents from the group with a high socioeconomic status start from 1 to 1.5 years.

At the age of up to 1 year, 29.5% (more than 1/4) families in group 1 started toilet training, while only 16.1% (p <0.05) did so in group 2. At the age of up to 18 months, however, the prevalence became roughly the same: in group 1 - 60% of families, in group 2 - 66.1%.

Completing toilet training

While assessing toilet skill formation, we did not consider nighttime in-sleep urination indicative, since it is known that at the age of up to 5 years involuntary nocturnal urinations are considered as a physiological phenomenon (hence, it is not possible to estimate the degree of toilet skill formation during sleep).

The estimation of toilet training completion for children from group 1 was hampered by the fact that by the time of the survey, these skills had not yet been finally established in 13.6% of children. Thus, a focus on the indications of children with formed skills alone would not reflect the actual timing of when toilet training was completed (would distort it towards an earlier end). However, it was not possible to get any real indications of the end of toilet training in children whose skills were still unformed by the time of the survey. Because of this, we have introduced an additional indicator for the registration - the projected average age of mastering

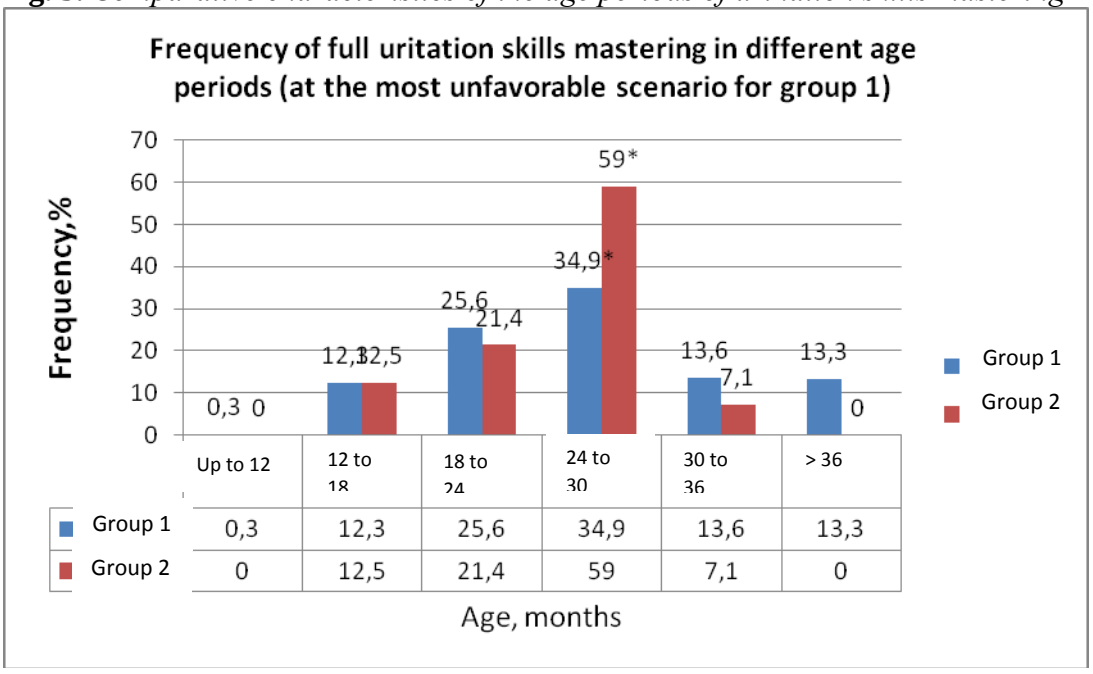
toilet training with the most negative scenario forecast. This parameter was calculated from the conditional admission that all children from 30 months old with unformed toilet skills by the time of the survey would master them by the age of 60 months (5 years). The indicators of these children were summed up with the indicators of children who had mastered the toilet skills by the time of the survey. We took the time interval between the average ages of those who had already mastered the skills and the indicators of the projected average age of mastering toilet skills at the most negative scenario forecast for the average age of complete toilet skills formation for all children in group 1 (Table. 5, Fig. 5).

Table 5. *The estimation of toilet training termination's dates*

	Average age by the time of toilet skills full mastery among those who had mastered the skill by the time of the survey		The projected average age of toilet skills mastering according to the most negative scenario forecast		The average age of urinating skills mastering (during awake hours) for all children	
	Group 1	**Group 2**	**Group 1**	**Group 2**	**Group 1**	**Group 2**
Uritation skills during awake hours, months	24,68 ± 0,26	23,30 ± 0,7	25,74 ± 0,33 *	23,3 ± 0,7 *	24,68-25,74 ± 0,33	23,3 ± 0,7
Defecation skills, months	23,79 ± 0,29	25,3 ± 0,6	25,39 ± 0,39	25,3 ± 0,6	23,79-25,39 ± 0,39	25,3 ± 0,6
All toilet skills during wakefulness (complete toilet skills mastering), months	26,13 ± 0,29	25,8 ± 0,6	28,04 ± 0,40 *	25,8 ± 0,6 *	26,13-28,04 ± 0,40	25,8 ± 0,6

Note. * - *P* <0.05.

Fig. 5. *Comparative characteristics of the age periods of urination skills mastering*



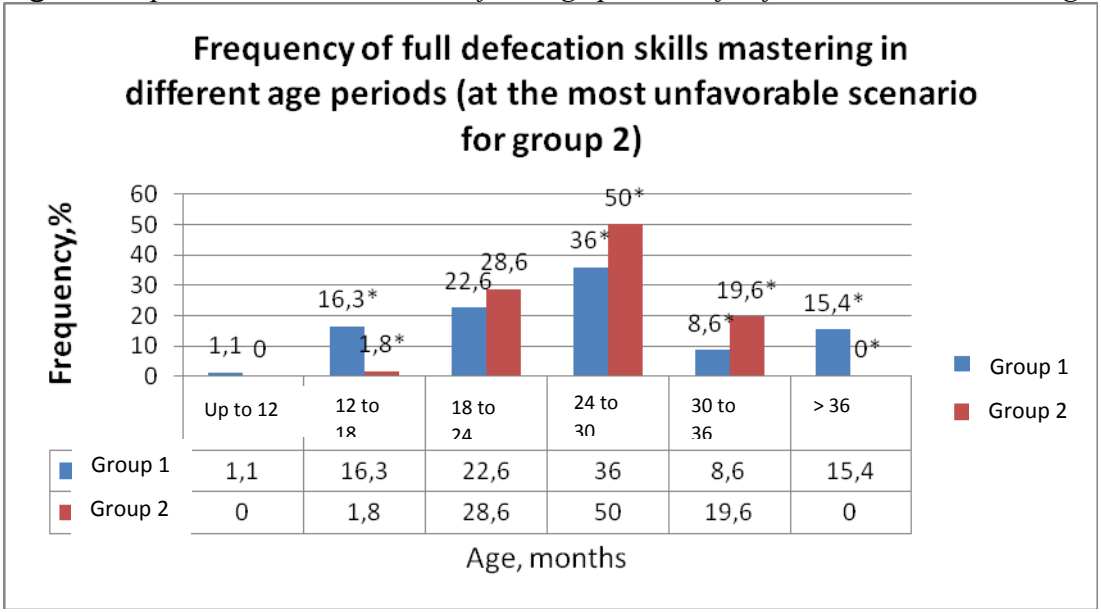
Note. * - *P* <0.05.

In group 2, the complete mastery of toilet skills, as well as the ability to control urination when awake, was achieved more than 2 months earlier. In group 1, gender differences were noticed concerning the period it took to master toilet skills: for girls - 27,03 ± 0,55, for boys - 28,82 ± 0,58 months. In case opf further calculation (having supposed that the first group consisted of the same gender proportion as the second), the average age of full toilet skill mastering in group 1 would be 27.75 months instead 28,04. But even in this case, the difference with group 2 (27.75 vs. 25.8 months) would still be valid.

In group 2 the urination skill (while awake) was mastered by 92.9% of children at the age of up to 2.5 years, while in group 1 this amount was significantly lower - 73.1% ($p < 0.05$), though by the age of up to 2 years no significant differences were observed (even an opposite trend was marked).

By the age of 18 months (early enough), a much greater proportion of children had mastered the defecation skill in the first group (16.3 vs. 1.8%; $p < 0.05$), but by the age of 2.5 years the proportions of children who had mastered the defecation skill in both groups were similar (36 and 50%; Fig. 6).

Fig. 6. *Comparative characteristics of the age periods of defecation skills mastering*



	Up to 12	12 to 18	18 to 24	24 to 30	30 to 36	> 36
Group 1	1,1	16,3	22,6	36	8,6	15,4
Group 2	0	1,8	28,6	50	19,6	0

Note. * - *P <0.05.*

Duration of toilet training

The average duration of toilet training from the very first attempts to the complete mastery (at the most negative forecast) for the 1st group was 12,88 ± 0,41, and for the 2nd - 10,5 ± 0,6 months ($p < 0$ 05; Fig. 7).

Two patterns, equally characterizing both groups, were identified: the earlier toilet training had started, the sooner it ended; but, despite this, the sooner the learning process began, the longer it lasted (Fig. 8).

6.3% of children in group 1 were trained in 1 day; in group 2 there were no such cases.

In group 2, the leading source of information were specialists (more than 96%), due to the specifics of the group (a medical surveillance contract with the Scientific Center of Children's Health). However, significantly more often parents from this group were drawing information from popular scientific literature (41 versus 18%, $P < 0.05$; Fig. 9).

Friends, acquaintances, relatives and online communities as a single source (the experiences and opinions of other people) held a dominant position in group 1 - 48.9% (in the 2nd group - 30.4%; $p < 0.05$).

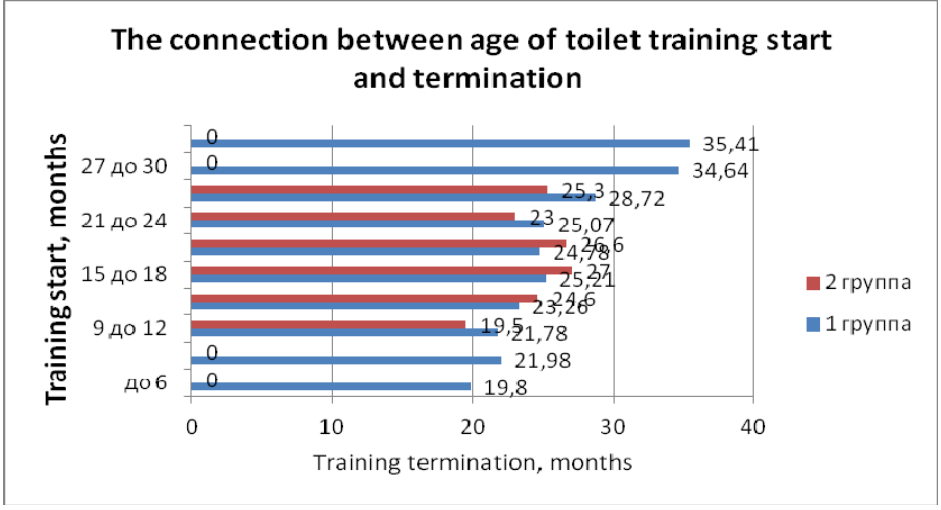


Fig. 7. *The connection between age of toilet training start and termination*

Fig. 8. *The connection between age of toilet training start and the training duration*

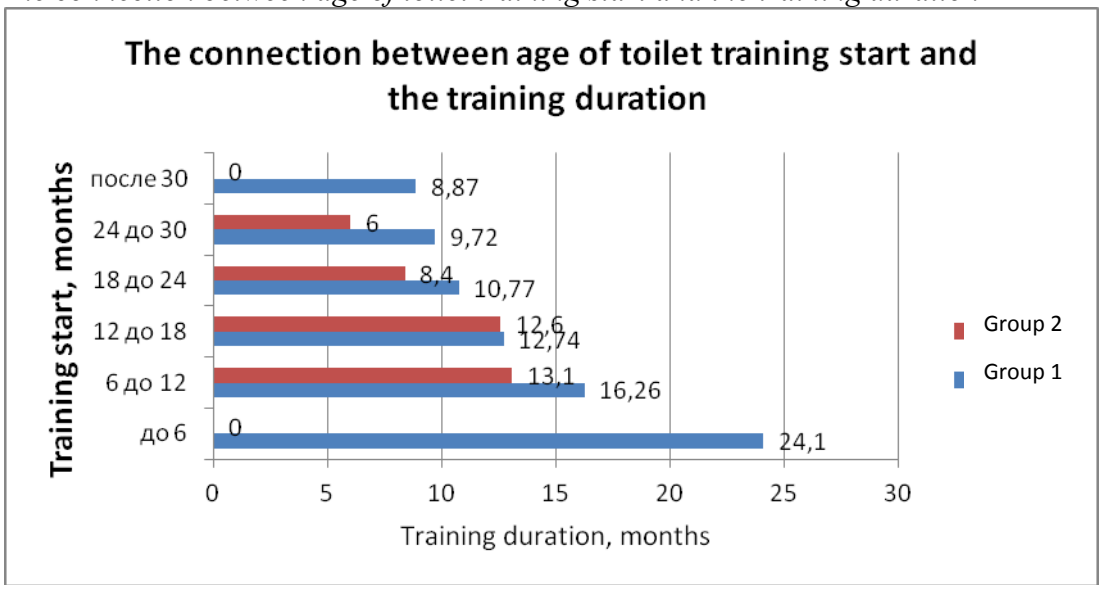
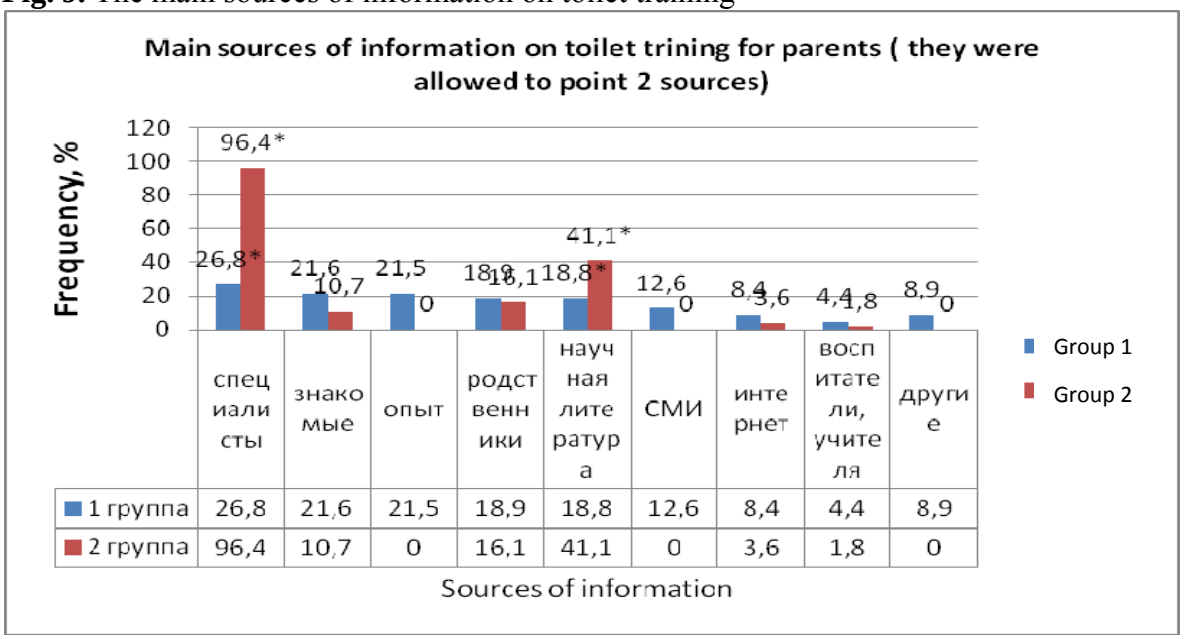


Fig. 9. The main sources of information on toilet training



In table (from left to right, one by one): specialists, acquaintances, relatives, scientific literature, mass-media, internet, tutors and educators, others

*Note. * - P <0.05.*

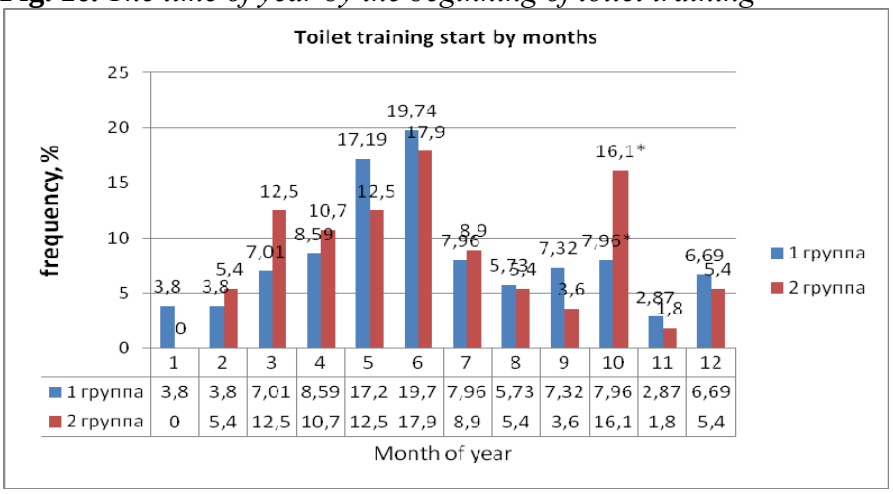
The success of toilet training in children depends on the physiological and psychological readiness of the child (tab. 6). As you can see, in most cases at the beginning of training, the children had a great range of signs of readiness, but in group 1, only slightly more than half of them were asking for a pot themselves, and a little over than 1/3, being able to remove their underwear, insisted on putting it back on. In the second group, these signs were recorded even less frequently - only in 13% ($p < 0.05$). In the second group, children were more likely to have a simple phrase speech at the beginning of the training (96% vs. 71%; $p < 0.05$). More than 1/3 of the first group parents could not remember if the majority of readiness signs existed at the beginning of learning or not.

Table 6. *Indexes of the children's development by the toilet training start*

Development Indicators	Yes (%)		No (%)		Not answered (%)	
	Group 1	**Group 2**	**Group 1**	**Group 2**	**Group 1**	**Group 2**
The child was able to sit and walk	96.3	100	3.7	0	22.4	0
Was able to imitate the actions of adults	88.6	96.4	11.4	3.6	39.3	0
Understood and used words, denoting processes of physiological functions	85.7	100	14.3	0	33.8	0
Stayed dry for at least 2 hours in a row, or woke up dry after a daytime sleep	85.6	100	14.4	0	29.8	0
Could express his/her decision (to say "no")	83.3	92.9	16.7	7.1	36.6	0
Regular defecations	79.9	69.6	20.1	30.4	39.3	0
Was capable of a simple (containing two words) phrase speech	71.4 *	96.4 *	28.3	3.6	36.3	0
Was asking for a pot	54.0 *	13*	46.0	43	33.8	0
Insisted on putting the usual underwear on, being able to take his/her clothes or underwear off	33.6 *	13*	66.4	43	40.4	0

During toilet training, the child does not wear diapers, which is associated with frequent physiological discharges in lingerie, including while being outdoors. In this regard, parents can take into account the climatic factor in choosing when to start the training. Results of the study demonstrate (Fig. 10) that parents are oriented towards the first warm months of the year, and the trends are the same for both groups, except for a burst of group 2 parents' activity in october (which seems to be difficult to explain). Comments on the basic patterns were presented in an earlier article.

Fig. 10. *The time of year by the beginning of toilet training*



	1	2	3	4	5	6	7	8	9	10	11	12
1 group	3,8	3,8	7,01	8,59	17,2	19,7	7,96	5,73	7,32	7,96	2,87	6,69
2 group	0	5,4	12,5	10,7	12,5	17,9	8,9	5,4	3,6	16,1	1,8	5,4

*Note. * - P <0.05.*

The analysis shows significant differences in tuition strategies (Fig. 11): if more than 1/3 of parents in group 1 started training by actively putting the child on the pot (in group 2 - 0%), the parents in group 2 were significantly more likely to start the training with the demonstration of the pot (60.7 vs. 40.4%; p <0.05). Parents of group 2 also were significantly more likely (37 vs. 9%, p <0.05) not to train children actively.

Significant differences in the training tactics were also documented (Fig. 12): if in group 1 the tactic of forced putting was dominating (50.9%), in group 2 the parents more often offered the child to use the pot on his/her own request (58.9%).

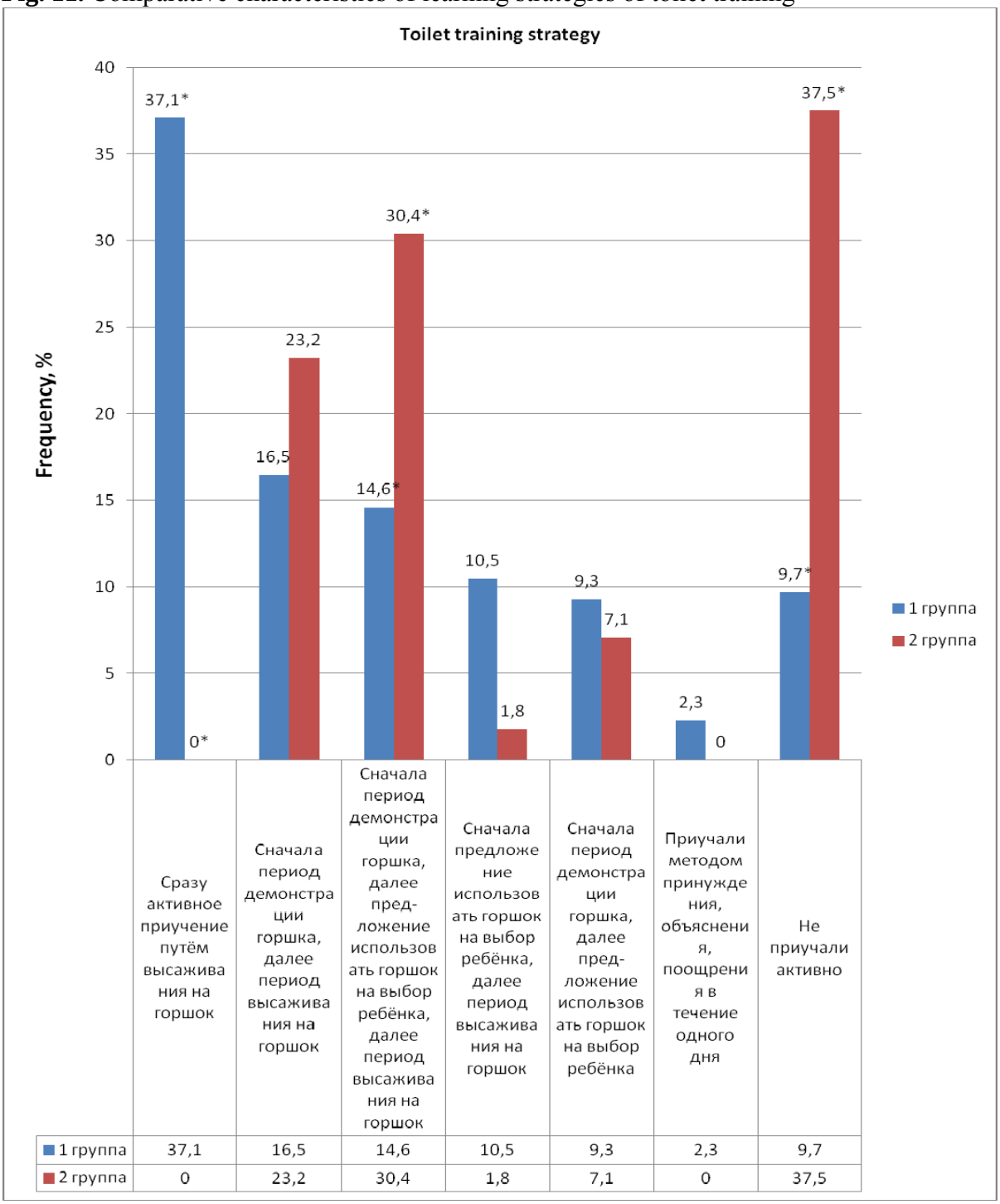
The proportion of parents putting their child on the pot more than 5 times a day, was significantly higher in group 1 (42 vs. 0%; p <0.05), that is, generally, putting the child on the pot more intensivelyui8 (Fig. 13).

Types of diapers and toilet facilities, applied by parents, are almost identical for both groups (Fig. 14, 15).

In the second group, all children mastered toilet skills on the first attempt, while in the CP group, the success rate of the first attempts was 63 (p <0.05). The average duration of toilet training by the number of attempts (Fig. 16) was 10,98 ± 0,52 and 10,5 ± 0,6 months (1 attempt) in the 1st and 2nd groups respectively; 14,25 ± 0,66 months (2 attempts) in group 1; 20,39 ± 1,47 months (3 or more attempts) in group 1 (p <0.001).

For group 2 parents, child rejection of the procedure referred to undesirable complications in nearly 90% of cases, while in the group number 1 – in 20% of cases (p <0.05;Fig. 17, 18).

Fig. 11. Comparative characteristics of learning strategies of toilet training

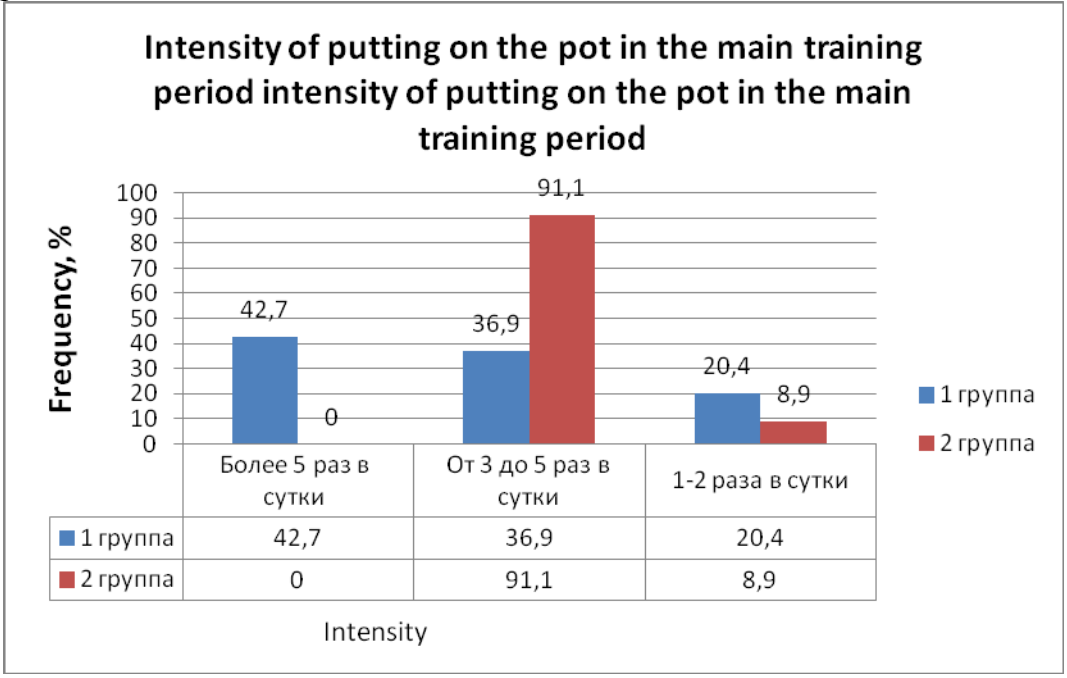


In table (from left to right, one by one): Active teaching by forced putting on the pot;
At first – demonstration of the pot to the child, then – forced putting on the pot;
At first – demonstration of the pot to the child, then – offer to use the pot by will, and then – putting on the pot;
At first – offer to use the pot by will, and then – putting on the pot;
Trained by methods of forcing, explanation, and encouragement during 1 day
Did not train actively
*Note. * - P <0.05.*

Fig. 12. Comparative characteristics of teaching tactics of toilet training

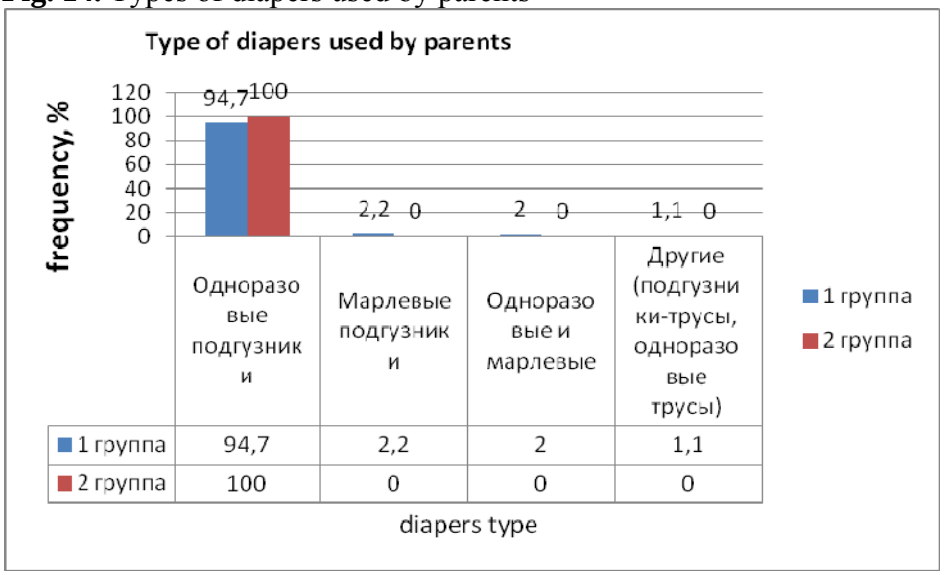
*Note. * - P <0.05.*
In table: Offered child to use a pot by his/her will
Forced put on the pot for all day long
Forced put on the pot not constant throughout the day
Did not actively carry out toilet training

Fig. 13. Comparative characteristics of the intensity of putting on the pot in the main training period



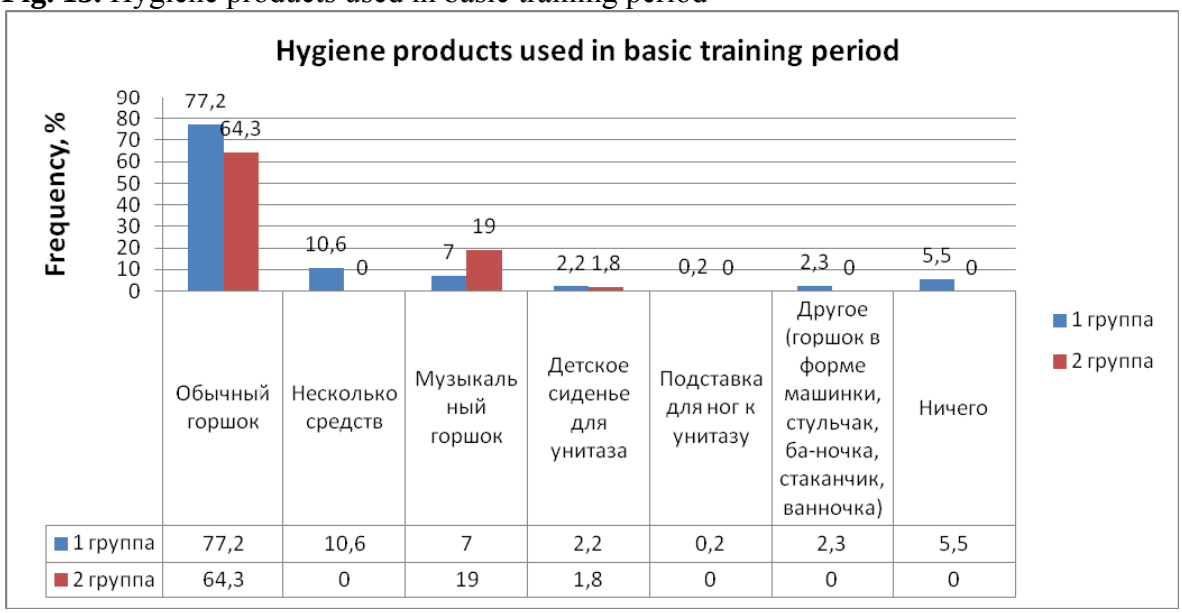
Note. In all cases P <0.05.
In table: over 5 times a day; 3 to 5 times a day; 1-2 times a day

Fig. 14. Types of diapers used by parents



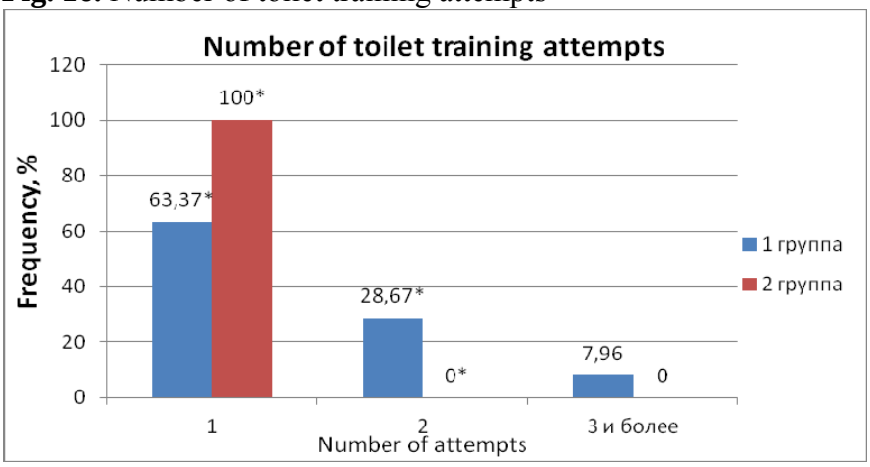
Note. In all cases, P <0.05.
In table: disposable diapers; gauze diapers; disposable and gauze; others (diapers-panties, disposable panties)

Fig. 15. Hygiene products used in basic training period



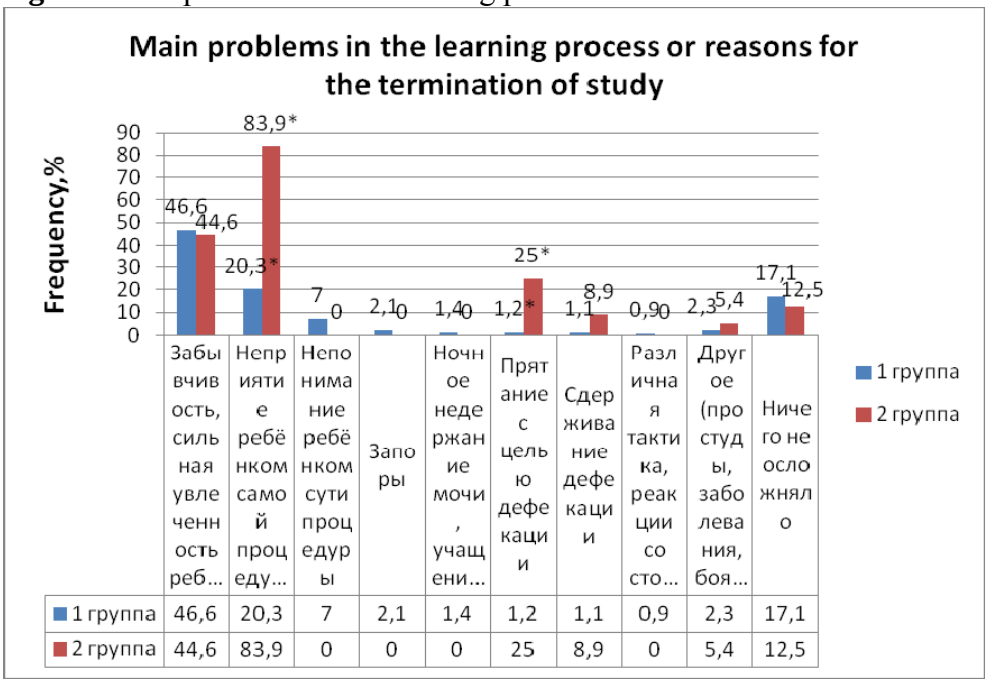
Note. In all cases, P <0.05.
In table: usual pot; few products; musical pot; children's toilet seat; footrest to a toilet bowl; other (car-shaped pot, close-stool, jar, cup, bath); nothing

Fig. 16. Number of toilet training attempts



*Note. * - P <0.05.*

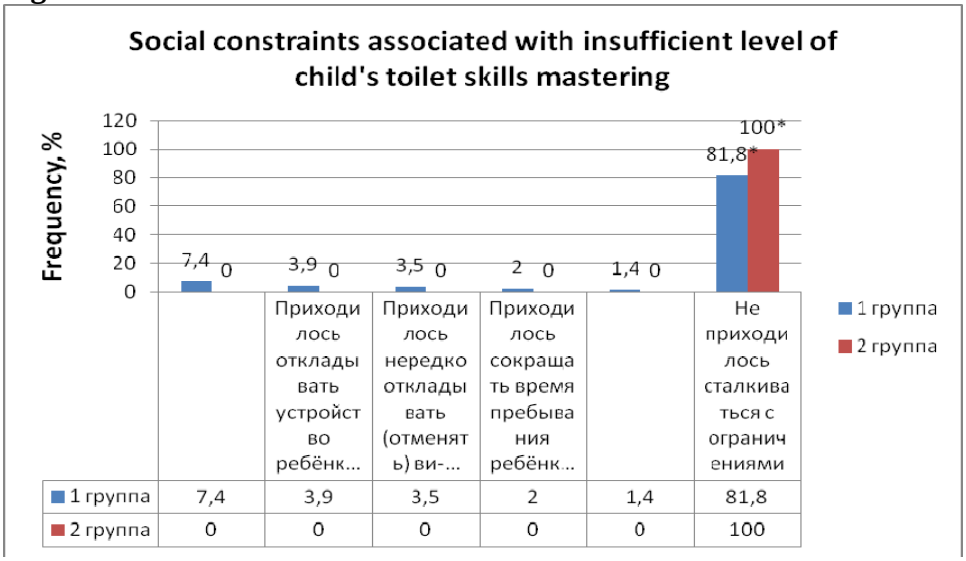
Fig. 17. Main problems in the learning process or reasons for the termination of study



	Забывчивость, сильная увлеченность реб...	Неприятие ребёнком самой процедур...	Непонимание ребёнком сути процедуры	Запоры	Ночное недержание мочи, учащени...	Прятание с целью дефекации	Сдерживание дефекации	Различная тактика, реакции со сто...	Другое (простуды, заболевания, боя...	Ничего не осложнало
1 группа	46,6	20,3	7	2,1	1,4	1,2	1,1	0,9	2,3	17,1
2 группа	44,6	83,9	0	0	0	25	8,9	0	5,4	12,5

*Note. * - P <0.05.*
In table: Forgetfulness, strong children's keenness on something;
Rejection of the procedure by child
Misunderstanding the procedure by child
Constipation
Bed-wetting, increase in frequency of daytime urinations
Hiding with a purpose of defecation
Defecation containment
Different tactics and reaction from adults
Other (influenzas, diseases, fear of pot, season, behavior and sleep disturbtion)
No problems

Fig. 18. Social constraints associated with insufficient level of child's toilet skills mastering



1 группа	7,4	3,9	3,5	2	1,4	81,8
2 группа	0	0	0	0	0	100

*Note. * - P <0.05.*
In the table:
Had to postpone the placement of child in kindergarten
Often had to postpone / cancel visits, event attendance, institutions
Had to reduce the time spent in kindergarten
Had to postpone the placement of child in educational clubs
Did not face any limitations
The 1st group is marked by blue colour and the 2nd one by red colour.

DISCUSSION

The average age at which toilet training begun was the same in both groups: 15,17 ± 0,23 (group 1) and 15,6 ± 0,8 months (group 2). However, the structure of the age periodization of training start was different. In the CP group, training began before the age of 1 year in 29.5% of cases; in group 2 - two times less often. In the group with high socio-economic status of families, training started between 12 and 18 months 1.5 times more often, and totally 50% of children of group 2 started training in this age range. In general, in the HSES group, a tighter starting age range was noticed: 76.8% of group 2 parents started the tuition in the median range of 1 to 2 years, while in the CP group - 53.9%. Accordingly, a more wide allocation is characteristical for the CP group: in 46% of cases, the training began out of the median interval - between 1 and 2 years. It is possible talk about a greater consolidation of ideas about tuition starting in an isolated social group, which once again confirms the dependence of the toilet skills formation process on the social component.

Children from the HSES group completed the training about 2.2 months earlier (on average 25,8 ± 0,6 versus 28,04 ± 0,40 months in the CP). It has previously been shown that in the common population group, girls master the toilet skills 1.5 months earlier than boys, so an adjustment of comparative data was carried out taking into account the differences in the gender composition of the groups, as a result of which the difference decreased to 1.9 months. Group 2 children also reached urination control skills about 2 months earlier.

The age periodization structure analysis of completing urinating skills training in two groups shows a similar regularity as compared with the differences at the start of training. In the HSES group, a tighter allocation of the completion date was noted: 80.4% mastered the urination skills in the median range of 1.5 to 2.5 years, while in the CP group the figure was 60.5%. It should be noted that at the age of up to 2.5 years the skills of urination were mastered by almost 93% of children from the HSES group and only by 73% of children from the CP group. As for defecation skills, no significant differences between the groups neither in the average duration, nor in the age periodization structure were noted. Perhaps the defecation skills, as more resistant

to psycho-physiological influences, are less dependent on the differences in attitudes and education models.

Overall, the average duration of toilet training from the very first attempts to the complete their mastering in the HSES group was more than 2 months shorter than in the CP group: 10,5 ± 0,6 versus 12,88 ± 0,41 months ($p < 0.05$).

For both groups the following regularities are equally characterizing: the earlier toilet training starts, the sooner it ends; but, despite this, the sooner the training begins, the longer it lasts. The latter conclusion is important in interpreting the differences in the duration and timing of when to finish toilet training. As shown above, in the CP group, the starting training at the age of up to 1 year takes a significant proportion, and in the HSES group – so does the start from 12 to 18 months. Taking into account the regularities of longer training duration in case of an earlier beginning, the predominance of an earlier training start at the age of up to 1 year in the CP group (2 times more likely) may lead to a longer length of toilet training and later dates of its completion. In this regard, starting training at the age of up to 1 year, practiced by parents, looks at least not more effective than a late start in the range between 12 an 18 months. In this case, it should be kept in mind that this is not a question of early (starting before 1 year of age) training effectiveness as such, but of the effectiveness of starting training during these dates using the methods practiced by the parents. This clarification is necessary, because the results of research do not show clearly, what is less optimal - the choice of tuition period, or the methodology used in these terms.

The differences in psychophysiological signs of children's readiness to training by the time of its start were noted only on three grounds. The high frequency of HSES children's simple phrase speech possession (96.4 vs. 71.4%) is associated with the predominance of training start at the age of 12 months, when the first phrase speech is expected, in this group (83.9 vs. 70.5% in the CP). In the first group, children significantly more likely asked for a pot on their own, and they more often insisted on putting the underwear on, being able to take it off. Probably, it is also associated with differences in the age structure of the training start: 16% of children in the CP group started training from 2 years, when these skills are more likely to occur, and so did 7.1% in the HSES group.

The trends of choosing during which month to start the training were similar in the two groups and were expressed in majorly starting the training in May and June - the first warm months when involuntary urination outdoors is the most safe.

Significant differences were found in the strategy and tactics of toilet training. In the CP group, active putting the child on the pot without a preliminary stage of its demonstration was noted in 37% of families, whereas in the HSES group it was not noted at all. Accordingly, in the HSES group the training more often began with a demonstration of the pot (60.7 vs. 40.4%). Also in this group parents significantly more likely (37 vs. 9%) did not actively teach children their toilet skills.

Teaching tactics during the active stage were also characterized by differences: the CP children were trained by putting on the pot more actively (almost 51% against 12.5 in the HSES group), and children from the HSES group were often proposed to use a pot at will (almost 59% compared to 38). And the intensity of putting on the pot in the HSES group was complied at the level of 3-5 times a day (in 91%); in the common population group, the frequency of putting was more various: more than 5 times a day (almost 43%). Thus, a consolidated commitment to putting the children on pot with moderate intensity was fixed in the HSES group, while a single commitment has not been noted in the common population group despite the high frequency of putting the child on a pot. It should be noted that for the HSES group, a greater uniformity in strategy and tactics variants was also typical.

In general, significant differences in the learning methodology can be reduced to a greater adherence to forced and more active actions in the common population group in the absence of their uniformity, whereas in the HSES group, methodology is more uniform, and techniques, oriented at the child's choice, with a moderate parental activity during the main stage of

education, are dominating. It is difficult to assess how these methodological differences affect the duration of toilet training, as methodological differences are more significant than the difference in training durations (approximately 2 months): we can only state their probable contribution to the differences in durations.

The contribution of methodological differences may be more demonstrative when comparing the groups by the number of attempts to teach (which can be considered as criteria of training success), where significant differences were fixed: in the CP group, the first attempts were unsuccessful in more than 36%, and retries were required, while in the HSES group, there were no such cases. Parents from the HSES group did not have to deal with their children's socialization in connection with the process toilet training, while in the common population group 18.2% of the parents faced such restrictions. However, these differences are not so indicative for demonstrating the effectiveness of the learning process, since in families from the HSES group, the issue of kindergarten attending, which is the most problematic in connection with the toilet training, is not so urgent itself. With regard to the difficulties associated with the reaction of the child to the learning process, more than 40% of parents in both groups faced the children's distractibility and forgetfulness, but in the HSES group, the main difficulty (almost 84% of cases) was the child's rejection of the procedure - 4 times more likely than in the CP group. It rather indicates the difference in the parental approaches to estimating the child's response. Obviously, the parents of the HSES group, who are set up on the child's choice, tend to assess the child's refusal as a significant factor and difficulty, while the parents of the CP group, largely set up to forced tactics for the child, would not assess the child's refusal as unwanted complications of the learning process.

The differences in methodological approaches may be determined by focusing on different sources of information: for the HSES group it is professionals (doctors and psychologists), as well as in more than 40% of cases – popular scientific literature in the overwhelming number of cases, while for the CP group - it is the experience and opinions of other people (non-experts). Can we extrapolate this data on the sources of information to a wider group of HSES families, given the fact that all HSES families in our study were on medical care contract (which gave them greater access to medical consultations on a wide range of issues of the child's education and health)? Such extrapolation is possible, because we know that the HSES families are generally committed to tighter individual medical supervision, which is much more accessible for them than for the common population families.

With existing similarities such as the types of diapers and toilet facilities, as well as choosing identical calendar months for the training start and the child's readiness signs, the parents from families with higher socio-economic status are more consolidated in the methodology of teaching children toilet skills and in the starting of it. Their methodology takes the child's choice into account to a much greater extent; it is characterized by a moderate intensity of putting the children on the pot during the main period of activity; they begin the training usually later, but generally between 12 and 18 months. In general, the effectiveness of teaching, judging by the number of attempts, should be recognized as higher in the HSES group; the duration of toilet training in this group is shorter by about 2 months.

When interpreting the results it should be noted that our study has several limitations. First, its retrospective nature suggests insufficient accuracy of the parents' memories: it especially may affect the accuracy of training start and completion dates, as well as some details of physiological processes, in particular, signs of the child's psycho-physiological learning readiness (more than 1/3 of the CP group parents could not remember precisely the presence of these signs in their children). Secondly, the complexity of some wording, for example, what should be considered as the full toilet skills mastering, could lead to answers not reflecting the requirements of the survey. Thirdly, the non-anonymous nature of the survey could contribute to the distortion of data through concealing the truth or expected response: it could be related to issues of financial and material well-being, the number of rooms, criticism of the child and so on. Fourth, discrepancies in the understanding of some concepts, each of which is

impossible to clarify by wordings (such as active learning, forced putting, defecation containment, partnerships, etc.) could also distort the objective picture. Fifthly, the difference in the groups' gender composition could distort the comparison of toilet training between the two groups; however, we presented the data adjusted subject to this factor where we thought it was possible.

CONCLUSION

As a result of the second phase of the retrospective toilet training study in Moscow's children, new data was obtained, deepening our understanding of the connection between the socio-economic conditions and the toilet skills formation in children.

1. In families with a relatively high socio-economic status, notions about the training start dates and learning methods are more consolidated than in the common population. It can be connected with greater orientation on specialists' opinions and on popular scientific data.
2. In families with relatively high socio-economic status, teaching methods are more focused on the children's choice and suggest moderate intensity in the putting on the pot, while in the common population families a more active putting on the pot without considering the child's choice is dominating.
3. In families with a relatively high socio-economic status, the training lasts a bit shorter and ends a little earlier. Families of the common population are more likely to face failures and are forced to retry the teaching attempts.

CONFLICT OF INTEREST

The authors have indicated they have no financial support / conflict of interest relevant to this article to disclose.

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