



MEDICAL UNIVERSITY OF PLOVDIV

FACULTY OF PUBLIC HEALTH

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**Formation of health skills and habits in
children from the Roma community**

AUTHOR'S ABSTRACT

*of a dissertation for the award of the
educational and scientific degree of "Doctor"*

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ABBREVIATIONS USED

DCC	DIAGNOSTIC CONSULTATION CENTRES
MH	MINISTRY OF HEALTH
MES	MINISTRY OF EDUCATION AND SCIENCE
NIC	NATIONAL IMMUNISATION CALENDAR
NNHM	NATIONAL NETWORK OF HEALTH MEDIATORS
NGO	NON-GOVERNMENTAL ORGANISATION
NSRBIR	NATIONAL STRATEGY OF THE REPUBLIC OF BULGARIA FOR THE INTEGRATION OF ROMA
MK	MUNICIPAL KINDERGARTEN
ECEC	EARLY CHILDHOOD EDUCATION AND CARE
GP	GENERAL PRACTITIONER
ECD	EARLY CHILDHOOD DEVELOPMENT
IREC+	INTEGRATION OF ROMA IN EARLY CHILDHOOD+

INTRO

The Roma are one of the largest ethnic groups in Bulgaria. Their specific cultural and social characteristics and values significantly influence their lifestyle and health-related behaviour. Health in early childhood is a fundamental factor for the complete physical, mental, and social development of the individual. The period from birth to 7 years of age is characterised by intensive processes of growth and development. It is during this period that basic health skills and habits, which have a long-term impact on a person's health status and quality of life, are formed; the foundations of a healthy lifestyle are laid, health habits related to personal hygiene, nutrition, physical activity, and sleep are established, and diseases are prevented. The lack of health education in children leads to low health literacy and an increased risk of developing chronic diseases later in life.

In the context of public health, children from socially vulnerable groups, including those from the Roma community, represent a particularly high-risk group. Socio-economic inequalities, poor educational performance, limited health literacy, and specific cultural and traditional characteristics have a significant impact on lifestyle, health behaviour, and access to health and education services. All these factors can lead to increased morbidity, underdevelopment, and difficult social integration of children at an early age.

The Roma community in Bulgaria is characterised by internal diversity, a specific family structure and the strong influence of traditions and authority figures in the family. Early motherhood and the dominant role of older family members influence the upbringing, education and development of healthy habits in children. In view of this, the role of parents, teachers, medical professionals, and health mediators is essential in compensating for deficiencies and creating conditions for the sustainable improvement of the health status of Roma children.

Nurseries and kindergartens, as institutional educational environments, participate in the process of socialisation and health education. All this is possible through targeted pedagogical work, supported by medical professionals and tailored to the cultural characteristics of the children.

Health professionals working in Roma communities who enjoy the trust of the community can achieve significant results in building and reinforcing health skills and habits. By changing the attitudes and behaviour of parents through health education.

Government efforts are focused on improving immunisation coverage,

INTRODUCTION

preventing early marriages and births, and developing health and social services. However, some serious challenges remain – ineffective prevention, lack of ethno-cultural competence among medical professionals, and insufficient coordination with health mediators.

This study aims to examine and analyze the health skills and habits of children from the Roma community aged 0–7 years, as well as the factors that determine them. By comparing the opinions and observations of parents, educators, and medical professionals, the aim is to achieve a comprehensive and multidisciplinary view of the problem. Based on the results obtained, a conceptual model of a plan for the formation of health skills and habits has been developed, taking into account the cultural and social specifics of the Roma community. All activities are aimed at the sustainable improvement of the health culture and quality of life of children.

I. PURPOSE AND OBJECTIVES

PURPOSE

To research and analyze the health skills and habits of Roma children aged 0-7 with a view to improving the health status and health culture of the Roma community.

OBJECTIVES

1. To examine the main factors affecting the health of Roma children aged 0-7, as well as the level of health skills and habits formation in early childhood.
2. To examine the opinions of educators working with Roma children on the specifics, challenges, and difficulties in building health skills and habits in a multicultural environment.
3. To analyse the views of medical professionals on the specific features and problems associated with the formation of health habits in children of Roma origin.
4. To develop a conceptual model of a plan for developing health skills and habits in children from the Roma community (0-7 years).

II. MATERIALS AND METHODS

STUDY DESIGN

In its nature, the observation is retrospective-anamnestic.

ORGANISATION AND IMPLEMENTATION OF THE STUDY

Subject of the study – factors and conditions influencing the formation of health skills and habits in children of Roma origin, as well as the opportunities for effective participation of medical and pedagogical specialists in this process.

Object of the study – health habits and skills among children from the Roma community of pre-school age (0-7 years).

Establishments subjected to monitoring:

- 1) Stolipinovo District - Plovdiv
- 2) Medical diagnostic centres in Plovdiv - MDC Iztok, Stolipinovo; MDC V-Plovdiv EOOD, Trakiya District
- 3) Municipal Kindergarten "Happy Childhood" in Stolipinovo; MC "Bilyana" in Stolipinovo; MK "Natalia" in the Stolipinovo neighbourhood; MK "Velimira" in Trakiya Residential District.

Logical units of observation:

1. Families with children aged 0-7 living in the Roma community.
2. Families with children aged 0-7 living in the Bulgarian ethnic community.
3. Medical specialists working predominantly with children of Roma origin.
4. Qualified educators working in kindergartens and nurseries, mainly with Roma children.

• **Key observation points**

Each of the families observed is different and unique, representing an intersection of various lines of social inequality in society – in terms of education level, profession, socio-economic status, etc.

Factual characteristics – ethnicity, financial stability, age of children in the family up to 7 years old, traditions and customs practised.

Outcome characteristics – established health habits by a certain age of the child, eating trends, adherence to a daily routine, and physical activity.

For healthcare professionals:

Factual characteristics – age, work experience in the field, and educational qualifications.

Outcome indicators - skills of medical professionals in communicating with patients of Roma origin and Roma children; performance of professional duties, problems, and difficulties.

For education specialists:

Factual characteristics – age, length of service in the profession, and educational qualifications.

Outcome indicators – skills of education specialists in communicating with Roma children and their families; performance of professional duties, problems, and difficulties.

- **Monitoring bodies**

The questionnaire survey among families living in the Roma community was conducted by the doctoral candidate with the help of a mediator from the community. It is impossible to conduct a qualitative study without the help of mediators living in the same neighbourhood. Roma people are very distrustful, avoid direct contact with strangers, and find it difficult to share information about themselves and their families. If an authoritative adult (mother-in-law or husband) is present during the interview, they always answer instead of the young woman. Very often, young Roma claim that they do not understand Bulgarian, and the mediator has to translate for them or use Turkish expressions to make sure that the respondents have understood the question correctly. Initially, they give socially desirable answers, and it is necessary to give them enough time to "filter out" the real answer to the question.

The survey among families of Bulgarian ethnic origin, medical specialists, and educators was conducted by the doctoral student.

- ***Time scale of the study***
 - **Pilot study**

In April 2021, we conducted a pilot study among families with children up to 7 years of age of Roma origin living in a Roma community. After analysing the results, we included interviews in addition to the survey method due to the respondents' difficulty in understanding the meaning of the questions asked. Some of the questions were modified to fit the purpose of the study.

For *medical professionals*, we used the pilot study to check the nature and type of questions in the questionnaire, the answers to the open-ended questions, and the recommendations to prepare the final model for the actual study.

- **Actual study**

The study was conducted using typological selection. The required number of observed units was calculated at a significance level of 95%. The calculations were made for both quantitative and qualitative measurable characteristics. The total and actual number of children participating in the study was determined.

- **Methods of information gathering**

- **Documentary method**

Available scientific publications and reports by Bulgarian and foreign experts, authors, researchers, and analysts of the Roma ethnic group, traditions, and way of life were reviewed and analysed.

Training programmes for nurses working with patients from different ethnic groups with cultural differences were studied.

- **Survey method**

The questionnaire method is fundamental for gathering empirical information from the field, together with semi-structured interviews and expert opinions. Roma living "in their own environment" in a neighbourhood inhabited entirely or predominantly by Roma were interviewed.

- *Questionnaire for Roma parents*

The general information section of the questionnaire for parents contains questions concerning the socio-demographic conditions of the family in which the child is being raised. Questions are asked about the child's current and past health status from birth to the time of the study. The questionnaire is designed to obtain information about the main factors that influence the way Roma children are raised, how their health habits are developed, and other related parenting practices.

The questionnaire contains 48 questions (mostly closed-ended due to the characteristics of the sample). They are grouped into the following sections:

1. socio-demographic characteristics of the sample;
2. the eating habits of the family and its children;
3. children's hygiene habits;
4. children's daily routine;
5. health and organisation of Roma family life.

➤ *Questionnaire for parents from the Bulgarian community*

The questionnaire contains 45 questions (open-ended, closed, and mixed).

They are grouped into the following sections:

1. socio-demographic characteristics of the contingent;
2. eating habits of the family and children in it;
3. children's hygiene habits;
4. daily routine of the children;
5. health and organisation of family life of non-Roma.

➤ *Questionnaire for medical professionals*

Medical professionals from various specialties and qualifications working with children and families from the Roma community were selected. This ensured a more accurate analysis and provided a more comprehensive expert opinion. The questionnaire contains 40 questions (open-ended, closed-ended, and mixed). They are grouped into the following 5 sections:

1. Socio-demographic characteristics of medical professionals.
2. Opinion of medical specialists on the health habits that children of Roma origin have developed for their age group, including hygiene, nutritional, physiological, and general habits.
3. Opinion of medical professionals on the daily problems and case situations they encounter when serving the Roma ethnic group.
4. Opinion of medical professionals on the organisation of family life, traditions and customs of the Roma that influence the formation of habits in children.

➤ *Questionnaire for educators*

For greater objectivity of the research results, the expert assessment of educators working in kindergartens and nurseries located in the largest Roma neighbourhood in Plovdiv, Stolipino, was also used. The groups are mixed, but with a predominance of Roma children. The questionnaire contains 36 questions (open-ended, closed, and mixed).

They are grouped into the following 5 sections:

1. Educators' opinion on the level of health habits developed by children in the family upon their admission to kindergarten;
2. Opinion of educators on the level of health habits developed by children in the family upon their admission to kindergarten;
3. Opinion of teachers and other specialists working with children on the health habits developed by children of Roma origin after attending kindergarten, including hygiene, nutritional, physiological, and general habits;
4. Opinion of teachers and other specialists working with children on the daily problems and case situations they encounter when serving the Roma ethnic group;
5. Opinion of educators and other professionals working with children on the organisation of family life, traditions, and customs of Roma that influence child development.

- **Semi-structured interview**

The focus is on the individual being studied (the respondent) and extracting as much information as possible on the questions. The interview is a direct face-to-face communication between the interviewer and the specific person being studied, with efforts focused on making the participants as comfortable as possible, listening carefully and in detail to their interpretations of their social and individual world. The open nature of these interviews allows researchers to gain a comprehensive understanding of the research topic. Direct interviews were conducted with adult respondents and indirect interviews regarding children and other household members.

STATISTICAL METHODS

Based on the purpose and objectives of the study, as well as the volume and type of data, the following statistical methods were used in conducting the study:

- We applied **descriptive statistics** to describe the results. The results are presented as the arithmetic mean and standard error (mean and Std. Error).
- We assessed the relative share and frequency distributions for qualitative (unmeasured) and grouped data through **alternative analysis**.

- To compare two independent samples, we applied **appropriate criteria and the Mann-Whitney test.**
- To compare the findings in two-dimensional distributions, we applied **the χ^2 criterion**
- To search for and identify dependence between variables, we applied **Pearson and Spearman's rho.**
- To illustrate the phenomena, the capabilities of **graphical analysis** were used to illustrate the phenomena.
- A significance level of **$P < 0.05$** was accepted for the null hypothesis.
- The data were processed using the statistical software package **SPSS ver. 23.0.**

III. RESULTS AND DISCUSSION

SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE CONTINGENT

The field survey was conducted in the largest Roma district in the city of Plovdiv (population 367,214), Stolipinovo. Stolipinovo is a district in the eastern part of Plovdiv, on the southern bank of the Maritsa River. It is the largest urban ghetto in Bulgaria, with a population of nearly 40,000 people from the Roma ethnic group, Christians, and Muslims. It is the largest urban ghetto in Bulgaria with a population of nearly 40,000 people of Roma ethnicity, Christians and Muslims. The Roma who self-identify as such in the Stolipinovo neighbourhood belong to the Dasikane Roma (Burgudji) group. The residents of Stolipinovo have easy access to health, education, and social services in the area itself. For this reason, they are further isolated from the rest of the city residents, and rarely need to leave the neighbourhood.

A total of 270 Roma participated in the survey. The age range of the Roma surveyed in the study varies widely – the youngest participant is 16 years old, and the oldest is 50. The average age of the investigated population is 28.76 ± 0.46 years (Figure 1).

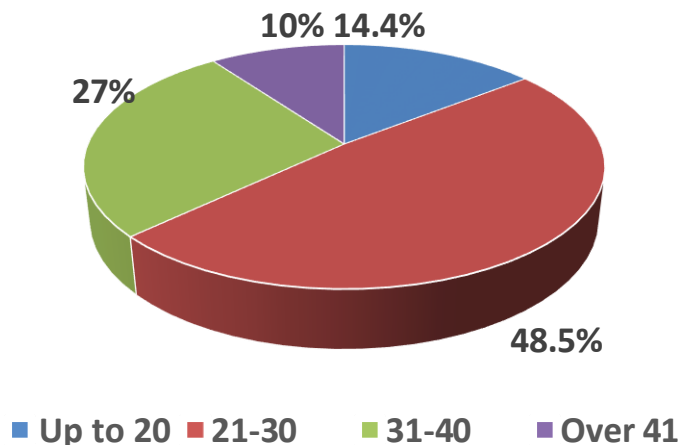


Figure 1. Age distribution among the Roma ethnic group

This paper also includes an analysis of the responses of 200 participants of Bulgarian origin who completed identical questionnaires. The results obtained and the comparisons made are presented and discussed. The average age of the respondents of Bulgarian origin surveyed is 35.09 ± 0.39 years (Figure 2).

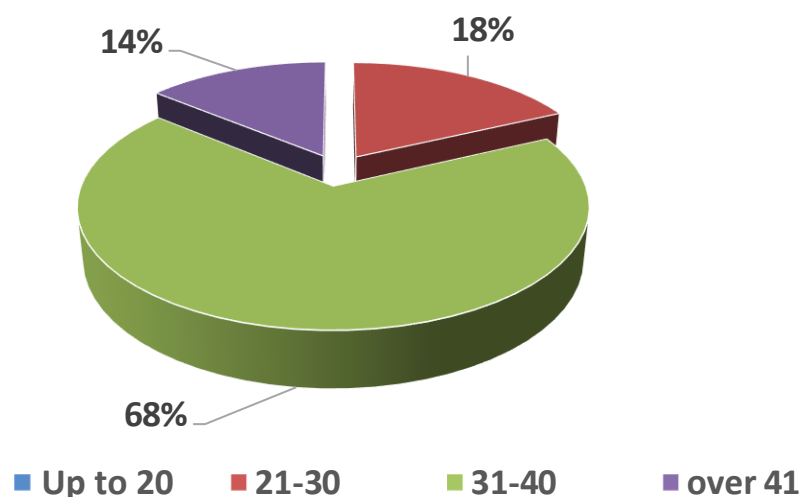


Figure 2. Age distribution among the Bulgarian ethnic group

The socio-demographic characteristics of the Roma and Bulgarian families surveyed are presented in Table 1.

Table 1. Socio-demographic characteristics of the Roma and Bulgarian families studied

Indicators	Roma		Bulgarians	
	Number	%	Number	%
Gender				
Female	250	92.6	180	90
Male	20	7.4	20	10
Ethnic self-identification				
Bulgarians	38	14.1	190	95
Roma	79	29.3	2	1
Turks	136	50.4	4	2
Others	17	6	4	2
Education				
higher	27	10	160	80
semi-higher	10	3.7	14	7
secondary	65	24.1	20	10
basic	132	48.9	6	3
no education	36	13.3	-	-
Marital status				
Single	79	29.3	56	28
Married	178	65.9	130	65
Divorced	13	4	10	5
Widowed	-	-	4	2
Financial situation				
Very good	25	9.3	42	21
Good	231	85.6	154	77
Bad	14	5.2	4	2
Place of residence – city	270	100	200	100

III. RESULTS AND DISCUSSION

The self-identification of the Roma population surveyed is noteworthy. Although society collectively labels them as "Roma", it is notable that they identify themselves as belonging to two main groups: Roma (29.3%) and Turks (50.4%). It is unsurprising that only 14.1% identify as Bulgarians. The "other" category (6.3%) most likely includes individuals who identify as belonging to the "Milet" group. This demonstrates the diversity and multiplicity of Roma subgroups, which influence Roma families, their thinking, behaviour, and lifestyle, often characterised by inconsistency.

It is notable that 92.6% of respondents are women, while men account for only 7.4%. It is expected and natural for women to be more active, given that in Roma families it is traditionally the woman who cares for the children and the household. The man's role is mainly associated with providing financial security for the family.

The majority of Roma families consider that they live well, with 85.6% of respondents describing their financial situation as "good". This is characteristic of the Roma ethnic group, who are content with more limited material resources. Socio-cultural characteristics and adaptability to low living standards contribute to this subjective perception of well-being. Only 9.3% of those surveyed describe their situation as "very good", while 5.2% describe it as "bad". In contrast, only 77% of Bulgarians consider their family's financial security to be good, 21% consider it "very good", and 2% consider it bad. As expected, the proportion of Roma families with a "very good" financial situation is lower than that of Bulgarian families, $P = 0.001$ ($\chi^2 = 15.2$).

Regarding the educational attainment of the Roma respondents, 48.9% have primary education, 24.1% have secondary education, and only 13.7% have higher or semi-higher education (Figure 3). During the study, significant illiteracy was observed among young Roma (13.3%), which affected their ability to read and understand the text, as well as to formulate answers.

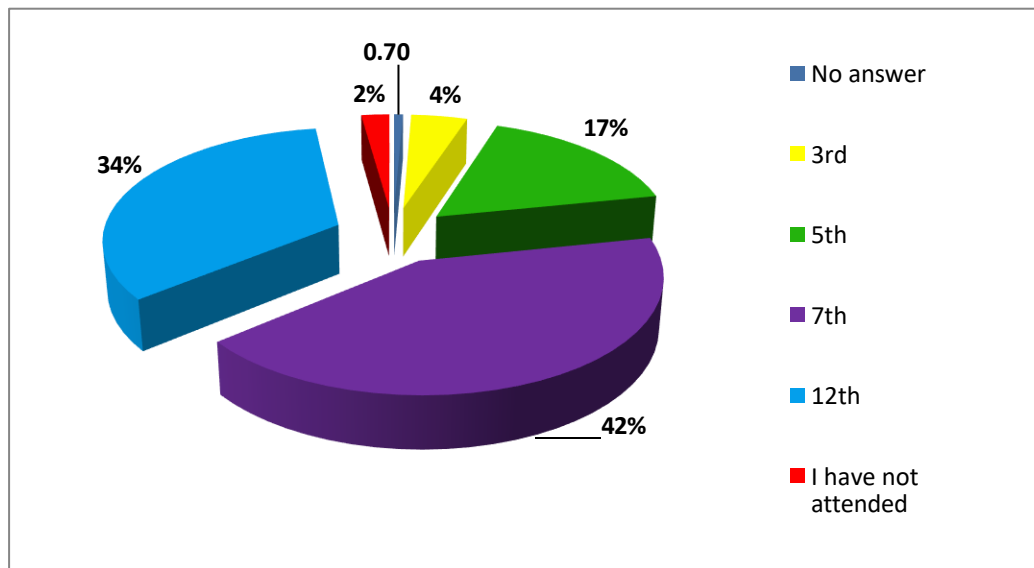


Figure 3. Education of participants of Roma origin

When comparing the two ethnic groups, we found that the level of education is higher among Bulgarians ($P=0.001$; $\chi^2=256.5$). A significant proportion of Roma have only primary education or no education, while 87% of Bulgarians have higher or secondary education.

According to Roma traditions, the appropriate age for marriage is after a girl has reached sexual maturity. At this time, parents begin to choose a suitable family for marriage. The wedding has become an institutionalised family custom and continues to hold this significance today. The study found that the age range for marriage is between 14 and 39 years, with an average age of 18.15 ± 0.47 years. Marriages at ages 14 (5.6%) and 15 (8.5%) are not uncommon. Among Bulgarians, the average age for marriage is significantly higher at 26.35 ± 0.31 years ($P=0.001$; $u=14.5$).

The results of the present study showed that 22.2% of Roma women gave birth to their first child before the age of 18, with the average age of those surveyed being 20.01 ± 0.50 years. Only 6.8% became parents at a more mature age, after 30. The young age of the mother and her lack of readiness to be a parent explain the observed interference in the family life of the mother-in-law, as well as her dominance in raising the children. In Bulgarian families, the average age at the birth of the first child is significantly higher, at 27.47 ± 0.30 years ($P=0.001$, $u=12.8$).

The results obtained regarding the number of children in Roma families also refute the common perception that these families are large. Of all 270 Roma respondents, only one family had 7 children (0.4%) and two families had 5 children (0.7%). The majority of Roma families surveyed have 2 children (45.6%) or 1 child (38.9%); 33 of the families surveyed (12.2%) have 3 children

III. RESULTS AND DISCUSSION

(Figure 4). We must also take into account the fact that the survey mainly included young Roma women of childbearing age, who may not have finished having children. The dynamic times we live in and the desire to provide a better life for members of Roma families also influence the birth rate, which was quite high in the past.

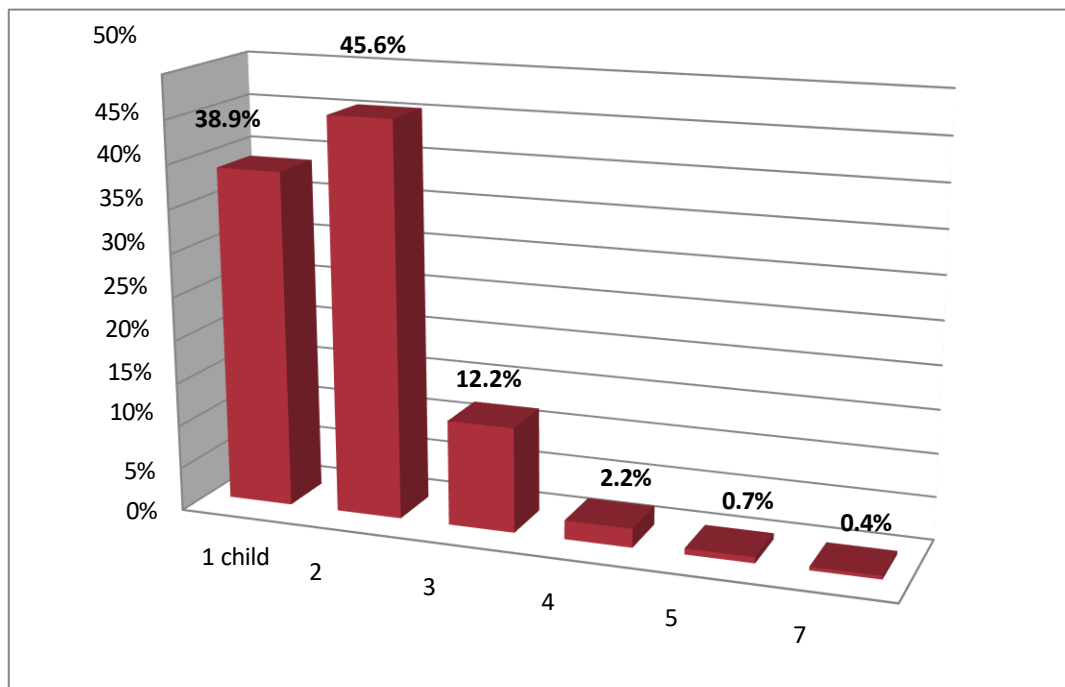


Figure 4. Number of children in the surveyed Roma families

1. Analysis of the factors affecting the health of children living in the Roma community.

The factors affecting health are divided into two main groups:

Endogenous factors include all anatomical features of the respiratory system and chronic diseases. They also encompass problems experienced by the mother during pregnancy that affect the child's health. Such influences may involve the mother's harmful habits and substance abuse during pregnancy.

Exogenous factors include environmental aspects such as healthy eating, family and social environment, hygiene and living conditions, health culture, and attendance at nurseries and kindergartens.

To build a healthy body, a complete, balanced diet appropriate for the respective age and needs is necessary. It must contain all nutrients, macronutrients, minerals, vitamins, and salts to ensure the normal development of the physical and intellectual capacity of adolescents.

Iron deficiency and iron deficiency anaemia negatively affect children's cognitive development and immunity. A national study of the nutritional status of children up to 5 years of age in Bulgaria shows that the prevalence of iron deficiency anaemia in children aged 1-4 years is 25.8%, rising to 40% among children from the Roma minority.

Studying and analysing the eating habits of children in early childhood would make it possible to determine their health status at a later stage in life. It would also help prevent the development of chronic diseases such as diabetes mellitus, hypertension, cardiovascular disease, and other conditions associated with metabolic syndrome.

The most nutritious food for a new-born is breast milk. We found a significant difference in the duration of breastfeeding between the two ethnic groups (Figure 5).

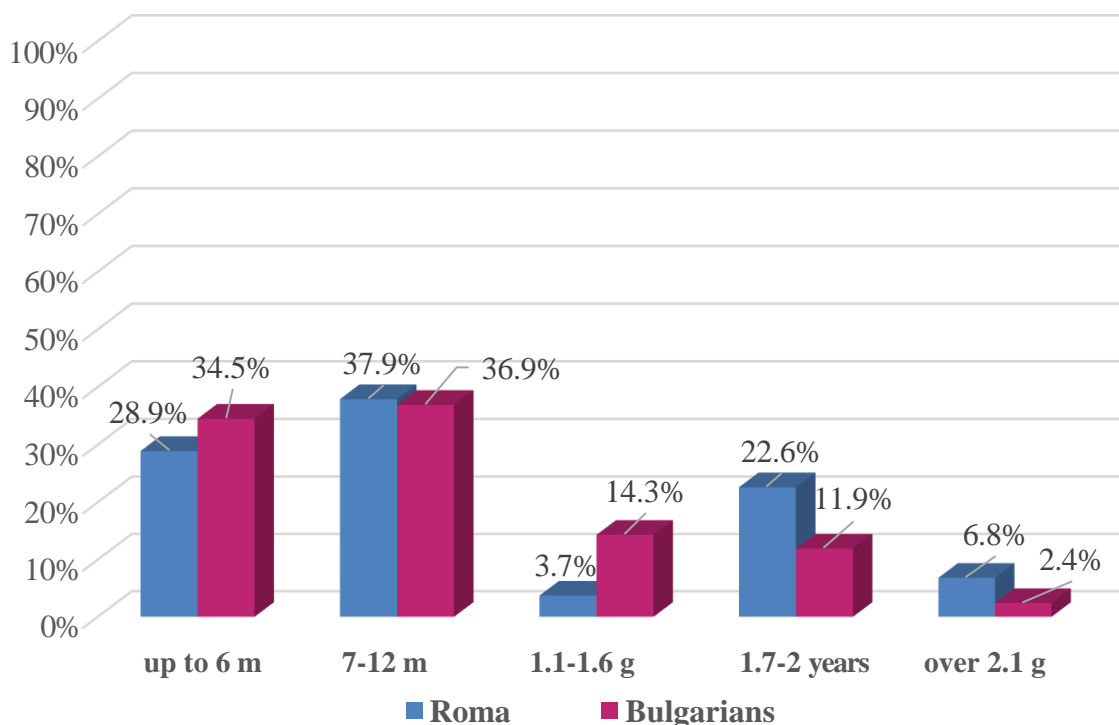


Figure 5. Duration of breastfeeding (comparison between Roma and Bulgarians)

Twenty-eight Bulgarian mothers (66.7%) breastfeed on demand; however, when the baby cries, they do not immediately offer the breast but instead look for other reasons for the crying. A significant difference was also found regarding compliance with paediatrician recommendations and adherence to hourly feeding schedules. There is a preference for formula feeding among Roma mothers (23.8%) compared to Bulgarian mothers (12.8%). Roma mothers are influenced by advertising clips on breastfeeding and widely use the same brands of formula milk (Figure 6).

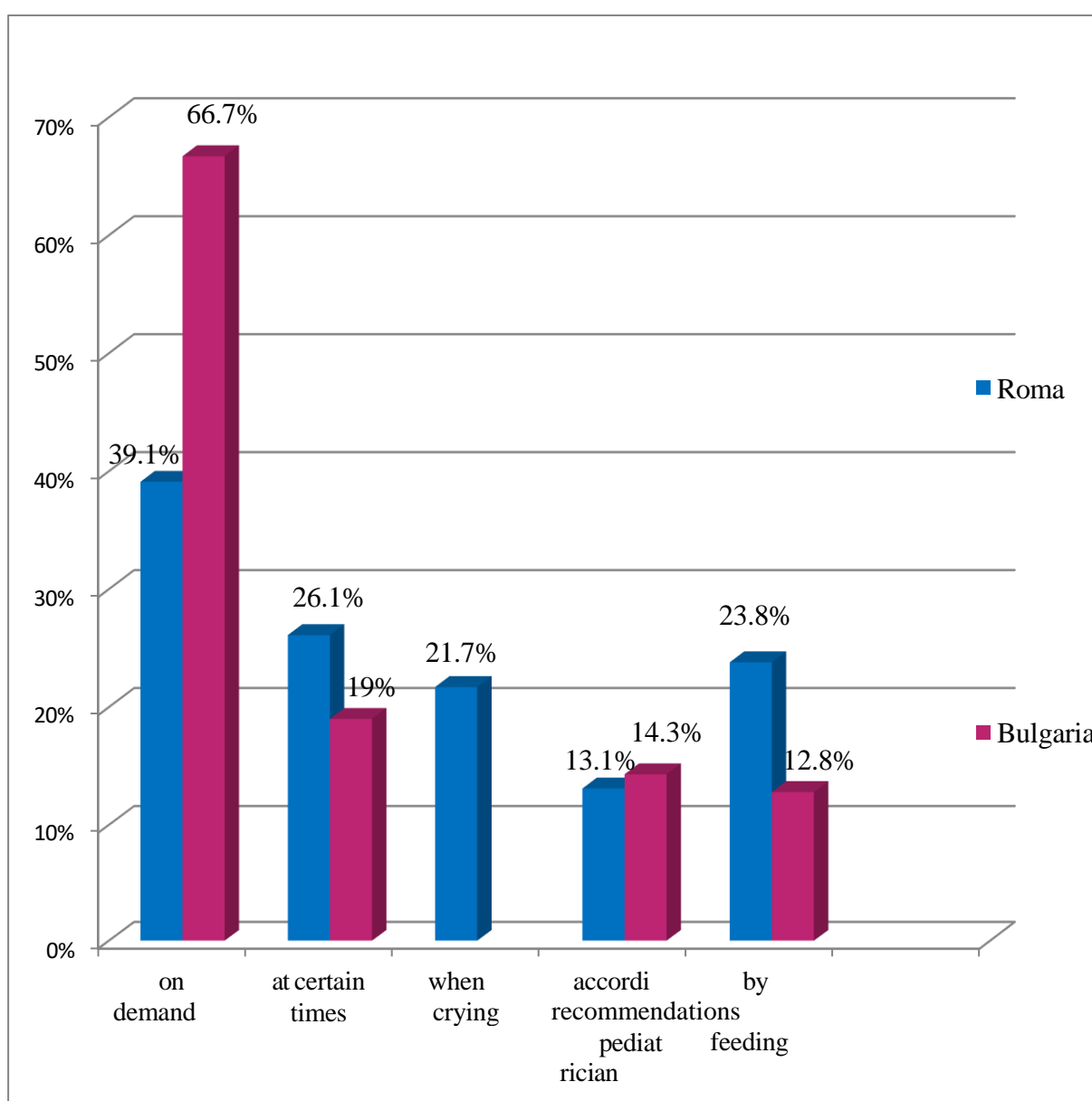


Figure 6. Comparative analysis of breastfeeding among Roma and Bulgarian women

The period of complementary feeding spans from 4 to 6 months of age. This stage is particularly risky because complementary foods are often introduced at inappropriate times or in insufficient quantities. Among Bulgarian mothers, the predominant complementary food is factory-made porridge or puree (80%). Roma mothers prefer to feed their children homemade porridge made from flour and fat (known as "balaban porridge") or yoghurt, which is a much more economical option for them, while Bulgarians prefer ready-made porridge ($P=0.001$; $\chi^2=64.7$) (Table 2).

Table 2. Comparison of food products used for feeding Roma and non-Roma children

			Feeding				Total
			Yogurt	Porridge	Milk-sops	total food	
Groups	Roma	abs. no.	80	134	14	14	242
		Relative share	33.1%	55.4%	5.8%	5.8%	100%
	Bulgarians	abs. no.	10	144	26	0	180
		Relative share	5.6%	80%	14.4%	0%	100%
Total		abs. no.	90	278	40	1	422
		Relative share	21.3%	65.9%	9.5%	3.3%	100%

When asked whether they use food from the children's milk kitchen, about 60% of both groups surveyed do not use this service. However, Bulgarian mothers buy ready-made food for their children more often $P=0.012$ ($\chi^2=12.81$) (Figure 7).

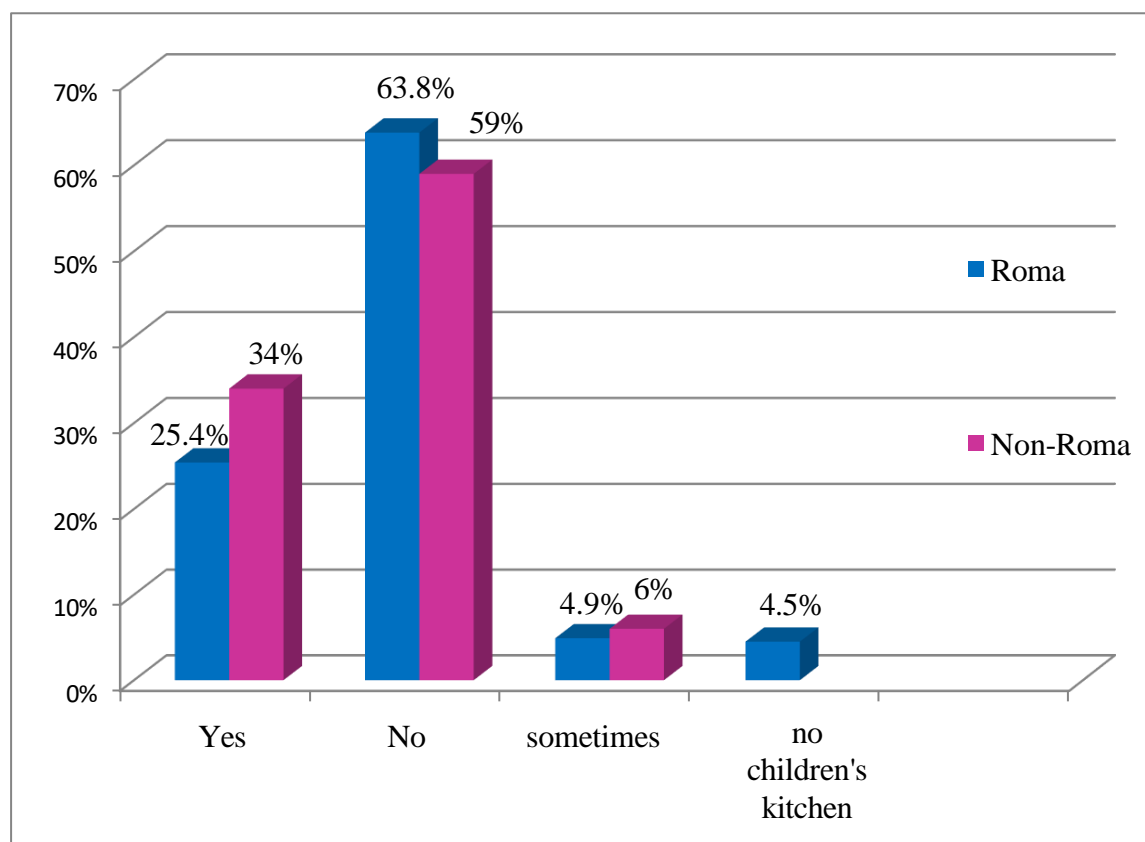


Figure 7. Comparative analysis of the use of children's milk kitchens for children aged 8 months to 3 years

Proper and balanced nutrition in children undoubtedly determines an individual's health status later in life. Violation of the basic principles of healthy eating can predispose individuals to the development of socially significant chronic diseases. Among the Roma, the daily diet is very monotonous and consists almost entirely of pasta and carbohydrates.

Breakfast is the most important element of a balanced diet. When comparing the two groups, it is notable that 56% of children of Bulgarian origin eat breakfast at kindergarten ($P=0.001$; $\chi^2 =74.6$). This can be explained by the fact that a large percentage of Roma children do not attend kindergarten regularly. Bulgarian children consume significantly more yoghurt (42%; $P=0.001$; $\chi^2 =15.6$) and fruit for breakfast ($P=0.002$; $\chi^2 =10.6$) (Table 3).

Table 3. Comparison of food products consumed for breakfast by Roma and non-Roma children

Breakfast	Roma	Bulgarians	χ^2 (p)
Banitsa	51.5%	39%	$\chi^2 =7.2$ (p=0.007)
Slice of bread with butter	27.8%	30%	$\chi^2 =10.31$ (p=0.63)
Princess	39.6%	50%	$\chi^2 =5.0$ (p=0.031)
Porridge	29.3%	21%	$\chi^2 =4.2$ (p=0.043)
Yoghurt	24.8%	42%	$\chi^2 =15.6$ (p=0.001)
Croissant	41.9%	19%	$\chi^2 =27.5$ (p=0.001)
Waffles	13%	3%	$\chi^2 =14.3$ (p=0.001)
Breakfast in the garden	17.8%	56%	$\chi^2 =74.6$ (p=0.001)
Whatever I find	8.9%	4%	$\chi^2 =4.3$ (p=0.042)
Macaroni	54.1%	61%	$\chi^2 =2.2$ (p=0.15)
Doughnuts	25.9%	11%	$\chi^2 =16.3$ (p=0.001)
Sandwich	28.9%	29%	-
Fruit	13.3%	25%	$\chi^2 =10.5$ (p=0.002)

The other two main meals, lunch and dinner, also show specific characteristics among the Roma (Figure 8).

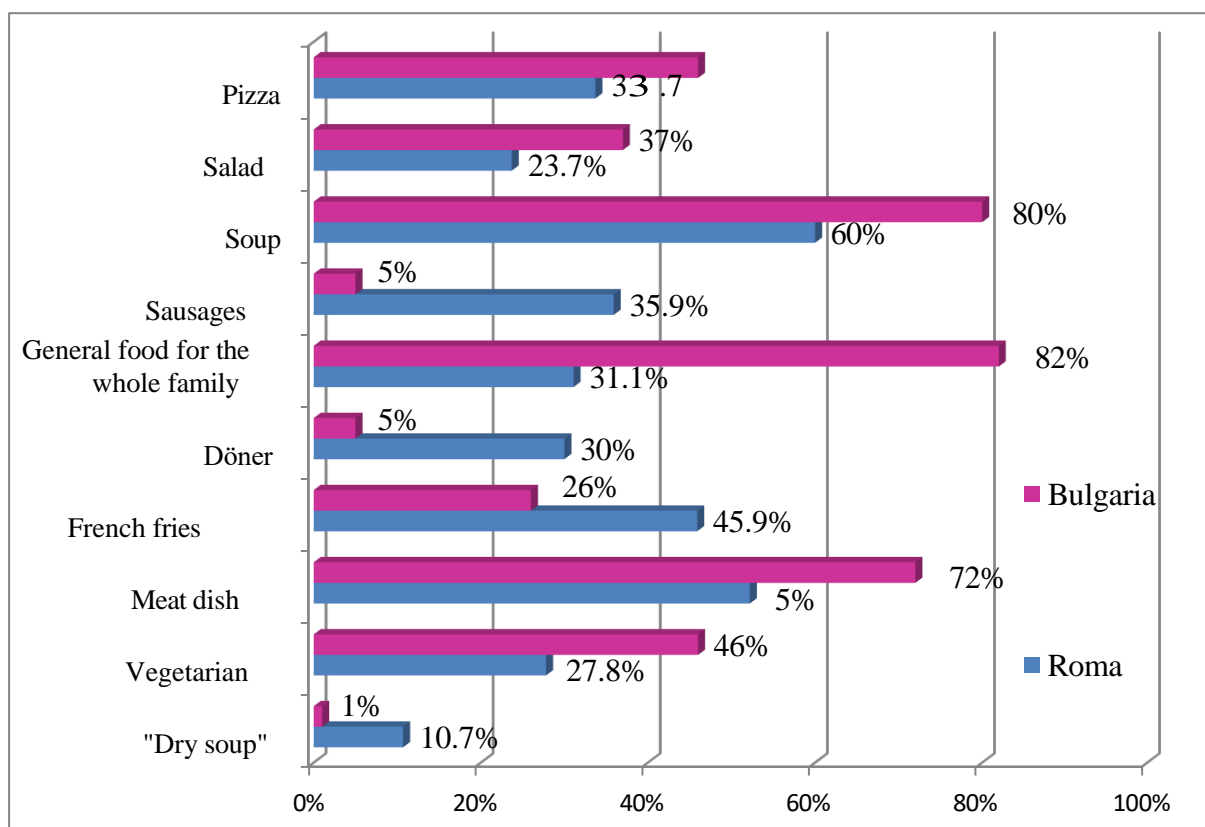


Figure 8. Main foods for lunch among Roma and Bulgarian children

Roma have more limited food choices and a more monotonous menu, based on cheaper and more readily available products. They prefer to give their children semi-prepared foods such as instant soup or fast food, including kebabs, pizza, French fries, and sausages.

Bulgarians feed their children more healthily, as their menu predominantly features liquid foods, which are easily digestible and readily absorbed by the body.

□ Analysis of the hygiene habits of Roma children that affect their health

A key pillar in developing hygiene habits in children is teaching them to wash their hands and face properly. Thorough washing before and after eating, playing, or using the toilet significantly reduces the pathogenic microflora that remains on the surface of the hands. This is an essential habit that children must learn from an early age to protect themselves from various infectious diseases and ensure good health. (Figure 9).

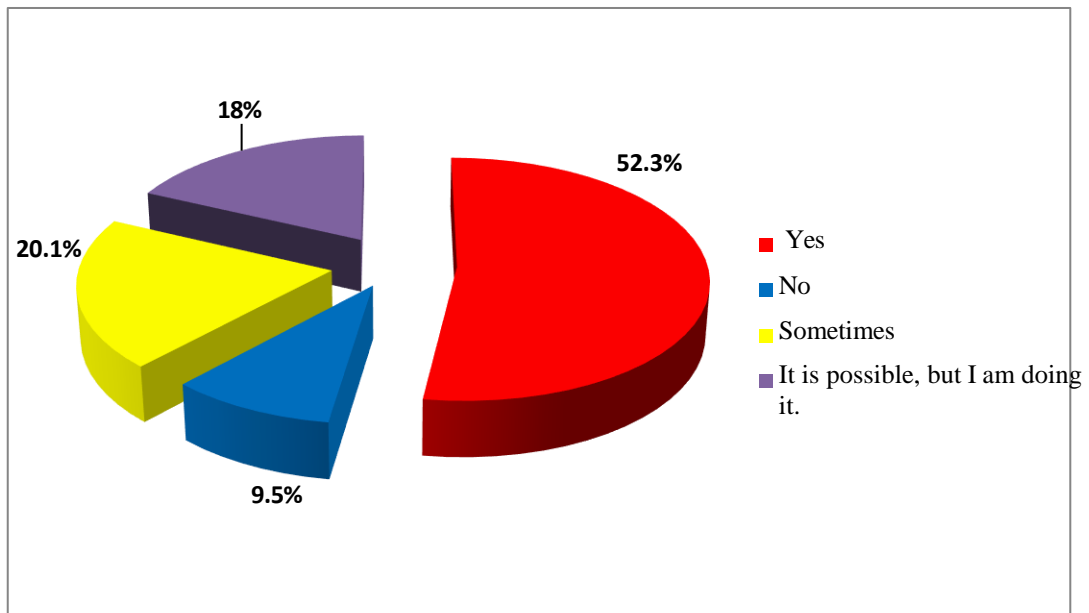


Figure 9. Hand washing after using the toilet by Roma children

It is alarming that only half of the children have developed a consistent habit of washing their hands after using the toilet (52.3%). In 18% of cases, Roma mothers are observed to be overprotective: "...yes, they can, but I do it for them...". In her desire to care for her child, the mother performs routine actions that should be established and turned into healthy habits instead of the child doing them.

The results are similar for the question "Does the child wash their hands before eating?" (Figure 10).

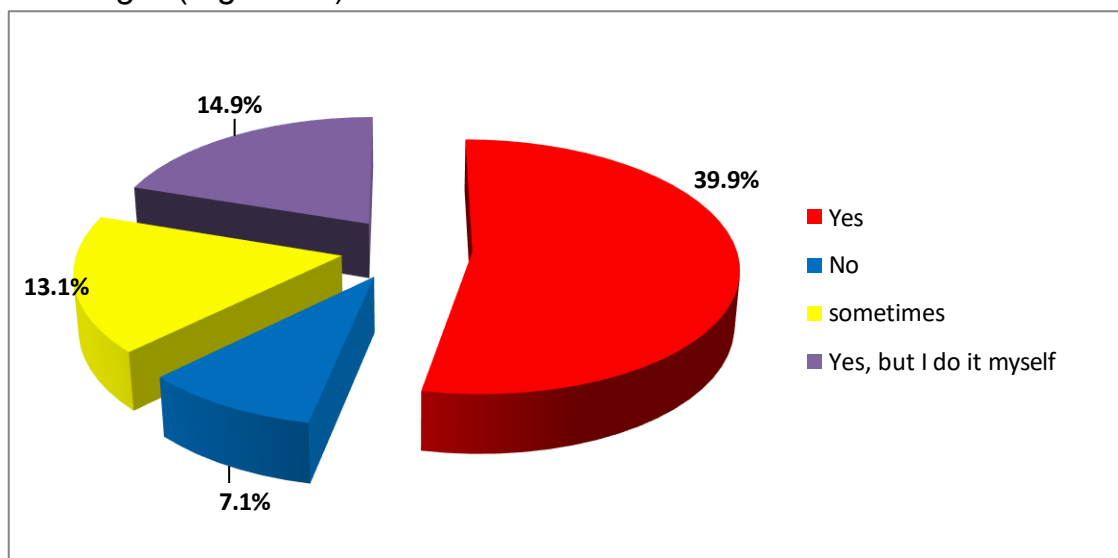


Figure 10. Washing hands before eating by Roma children

The analysis of sleep revealed a significant difference between the two groups studied. The comparison shows that 76% of Bulgarian children go to bed before 10 p.m., while only 43.3% of Roma children do so ($\chi^2 = 87, p = 0.001$). Notably, 26.6% of Roma children go to bed when they wish or when the adults go to bed. (Table 4).

Table 4. Relative share of night-time sleep among Roma and Bulgarian children

			What time do children go to bed in the evening?						Total
			20-21	21-22	22-24	I can't say	When they want to	when they go to bed age-groups	
groups	abs. no.	abs. no.		88	71	10	50	22	270
		Relative share	10.7%	32.6%	26.3%	3.7%	18.5%	8.1%	100%
	Bulgarian S	abs. no.	22	130	48	0	0	0	200
		Relative share	11%	65%	24%	0	0	0	100%
Total		abs. no.	51	218	119	10	50	22	470
		Relative share	10.9%	46.4%	25.3%	2.1%	10.6%	4.7%	100%

Going to bed late at night means getting up late in the morning. Almost all Bulgarian children (94.9%) get up between 7 and 8 a.m., while less than half of Roma children get up at this time, and about 16% get up when they wake up (Figure 11).

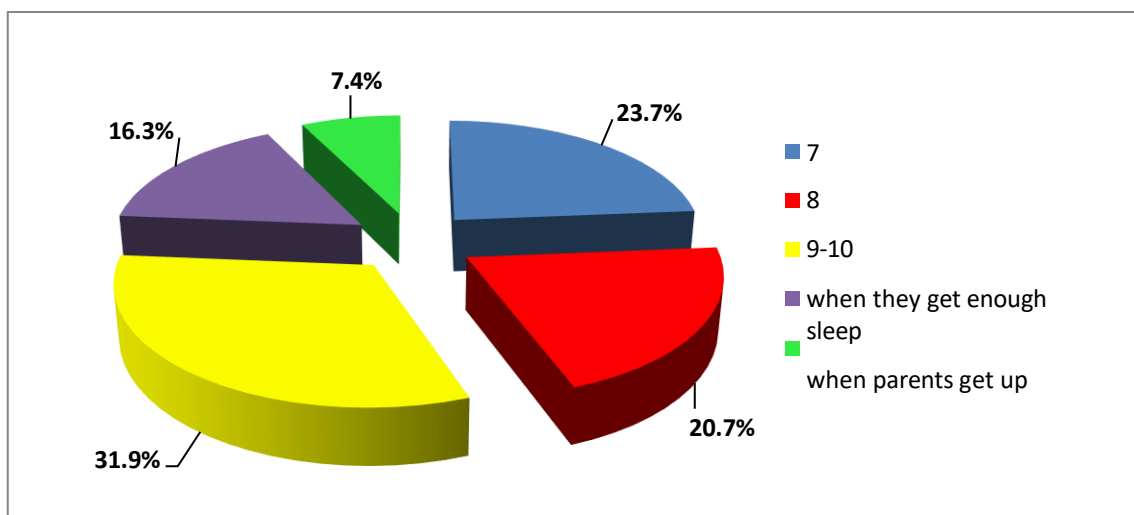


Figure 11. Hours for waking up children of Roma origin in the morning

The results we obtained regarding the oral hygiene of Roma children are also alarming. Almost half of the parents -109 (40.4%)-refused to answer the question, and about one-fifth (19.3%) of the Roma gave a categorical negative answer. (Figure 12).

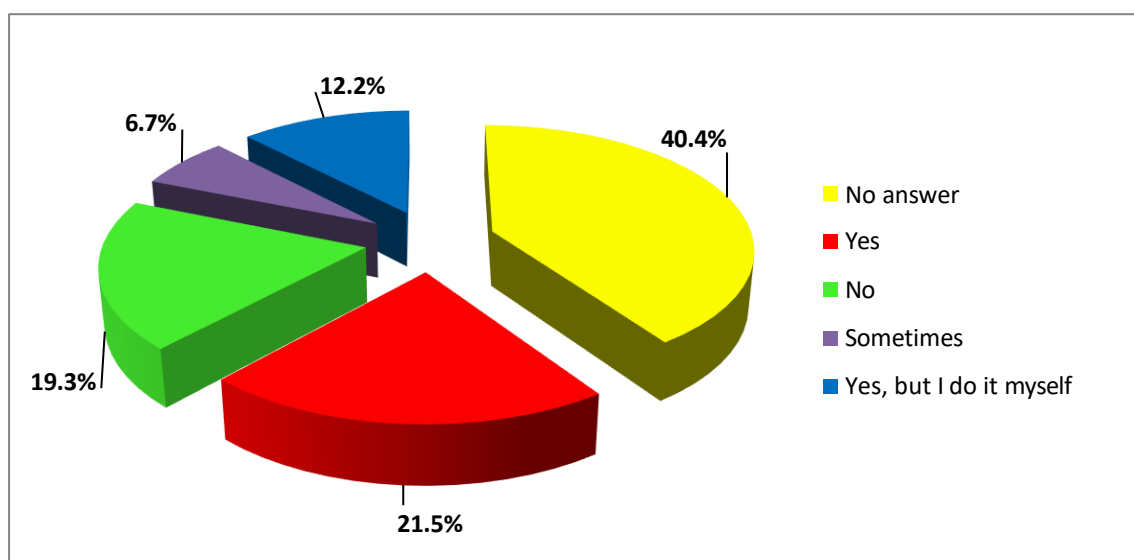


Figure 12. Oral hygiene of Roma children / independent tooth brushing

In addition to adequate sleep, hardening is another important factor in children's physical development. This should begin in the first month after birth, while all the organs and systems are still developing. Using basic elements such as air, sunlight and water in combination with massage and gymnastics leads to the desired results. The survey showed that parents in both groups had a low level of health awareness. This means that they are not sufficiently familiar with the effectiveness and benefits of these activities for children's bodies, which is why they neglect this process (Table 5).

Table 5. Comparative analysis of hardening procedures performed on Roma and Bulgarian children

groups		Hardening procedures for the child					Total
		Yes	No	not always	I cannot judge	only tempered by the streets	
Roma	abs. no.	55	135	20	41	17	268
	Relative share	20.5%	50.4%	7.5%	15.3%	6.3%	100%
Bulgarians	abs. no.	80	82	14	20	2	198
	Relative share	40.4%	41.4%	7.1%	10.1%	1%	100%
Total	abs. no.	135	217	34	61	19	466
	Relative share	29%	46.6%	7.3	13.1	4.1	100%

When asked who they receive health advice, recommendations and support from when raising their children, two answers stand out among Roma parents, with almost identical results: 'My mother' and 'My family doctor'. In the Roma community, it is common for older family members to guide and instruct young mothers. The matriarchal family structure is prevalent within this ethnic group. Among those surveyed, the personal doctor stands out as a source of great authority for 46.3%, as does the nurse for 30%. Roma people often consult their personal paediatricians and nurses. Health professionals are highly respected in the Roma community and recognisable figures in Roma neighbourhoods. (Figure 13).

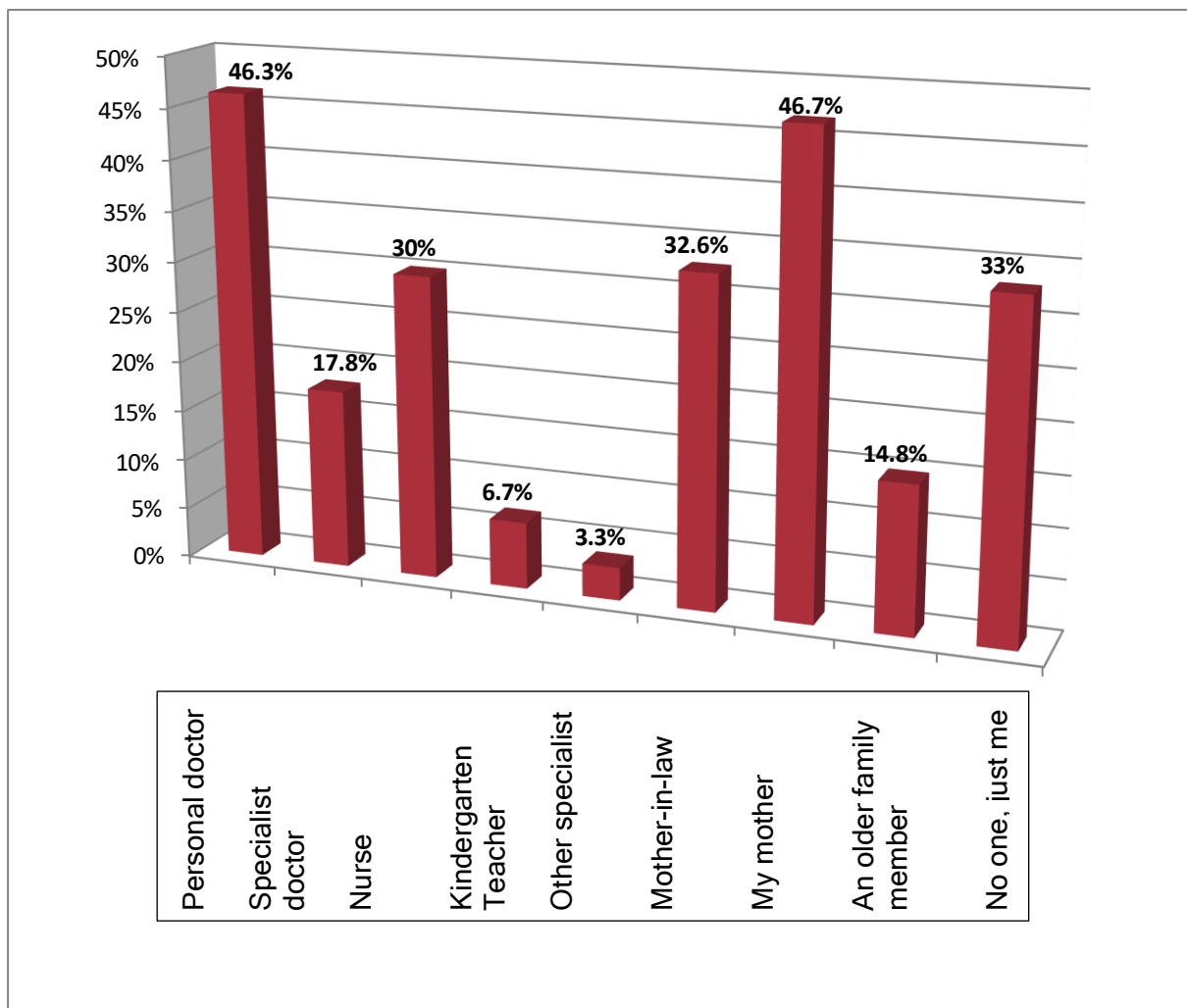


Figure 13. *People who influence Roma mothers on how to raise their children*

2. Analysis of the health habits and skills of children aged 0–7 living in Roma communities and Bulgarian children, according to the opinion of kindergarten teachers

The health skills and habits developed during the early years are crucial for establishing a healthy lifestyle and preventing disease later in life. Kindergartens play a particularly important role in providing an environment in which children can socialise and acquire basic health knowledge and habits through interaction with teachers. Teachers working with bilingual children must approach them with special care, patience and affection. For these children, kindergarten is often their first encounter with a new language and social norms in an unfamiliar environment.

A total of 59 specialists from various kindergartens in Stolipinovo, the largest Roma neighbourhood in Plovdiv, participated in the study. They were distributed as follows:

- 22 (37.3%) teachers specialising in "Preschool and Primary School Pedagogy" (PSPP);
- ✓ 22 (37.3%) teachers specialising in "Preschool and Primary School Pedagogy" (PPSP);
- ✓ 22 (37.3%) educators specialising in "Pre-school Education" (PUP);
- ✓ 2 (3.4%) psychologists;
- ✓ 4 (6.8%) kindergarten principals;
- ✓ 9 (15.2%) other specialists – art therapists, music therapists and support staff.

This diversity of professional backgrounds enables a broader perspective on the practices and challenges of working with preschool children, including those from bilingual or disadvantaged backgrounds.

The average age of the study group is 44.4 ± 1.35 years. Notably, 11.9% have 10 years of professional experience, 6.8% have 20 years, and 21.1% have over 30 years. The average length of service is 16.9 ± 1.48 years, 11.92 ± 1.34 of which are spent working with Roma children.

In the kindergartens surveyed, children are divided into groups of an average of 20.34 children (± 0.65), 10.39 of whom (± 0.92) are Roma.

In summary, the study found that the surveyed teachers have significant professional experience and expertise in working with Roma children. However, only 44.1% say that they never encounter difficulties in communicating with Roma children.

Almost the same proportion (42.4%) say that they sometimes experience difficulties, and 6.8% of respondents stated that they have serious difficulties communicating with children from this ethnic group.

These data show that effective communication with children from the Roma community can be challenging for some teaching staff, even with experience and professional training. This is likely due to cultural differences, language barriers, or an absence of specific training in intercultural communication. The results highlight the need for additional training and support for teachers working in multicultural environments.

The integration and socialisation of Roma children into society and their mastery of spoken Bulgarian is a major problem for teachers (Figure 14).

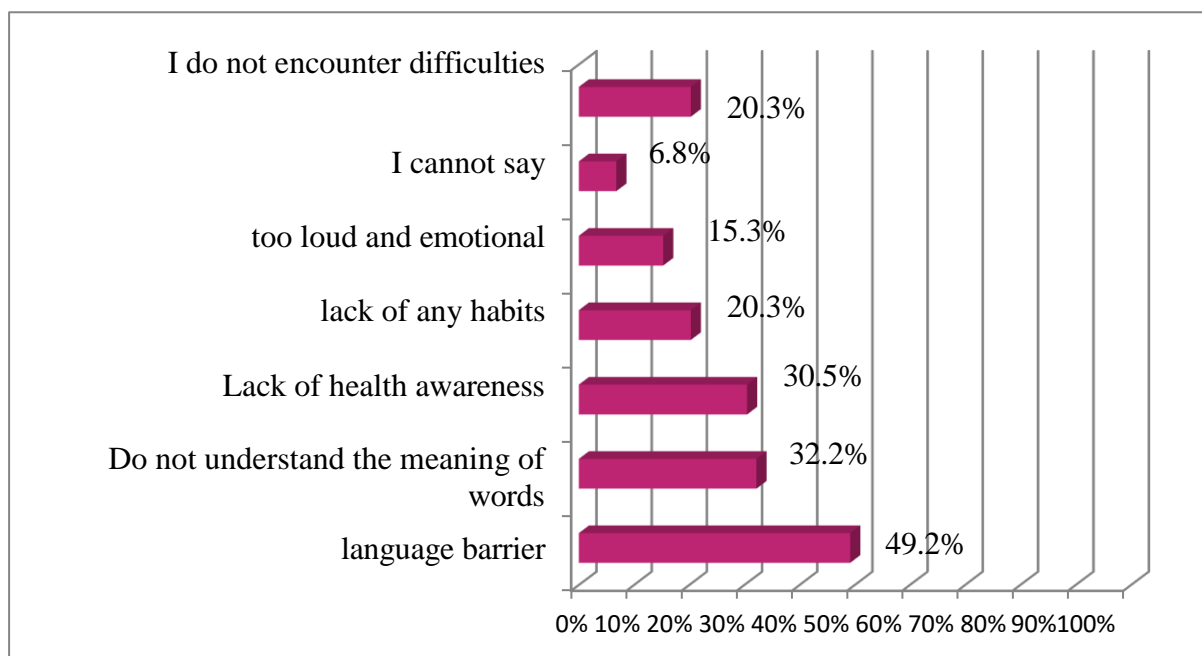


Figure 14. *Difficulties encountered by teachers in their work with Roma children*

According to teachers, other significant problems include the language barrier, a lack of understanding of the Bulgarian language, and a lack of health awareness. Educational programmes and teaching strategies in ECEC (Early Childhood Education and Care) are not adapted for children whose first language is not Bulgarian. In Roma families, only Roma or Turkish is spoken. Turkish television is mainly watched.

Teachers report that very few children have developed hygiene habits in their families before entering kindergarten.

Very good results are observed in terms of the hygiene habit of "hand washing" - 78% of Roma children demonstrate the ability to wash their hands independently upon entering kindergarten (Figure 15).

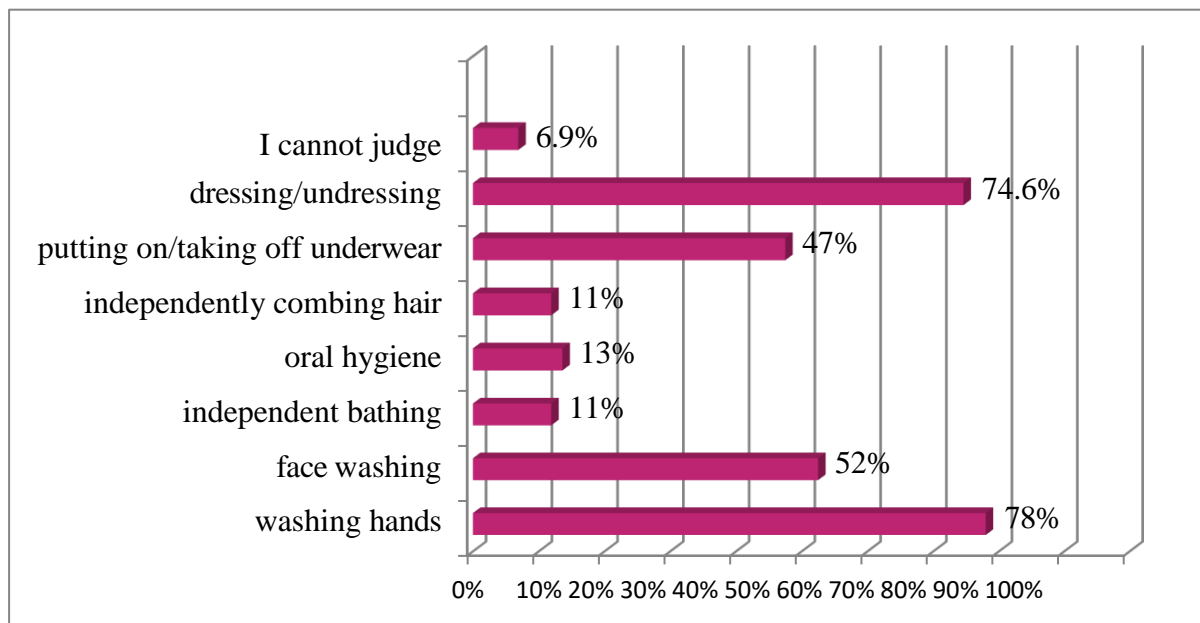


Figure 15. Health habits developed by children upon entering kindergarten, according to teachers

Figure 16 shows the results achieved by teachers in developing healthy habits after children attended kindergarten.

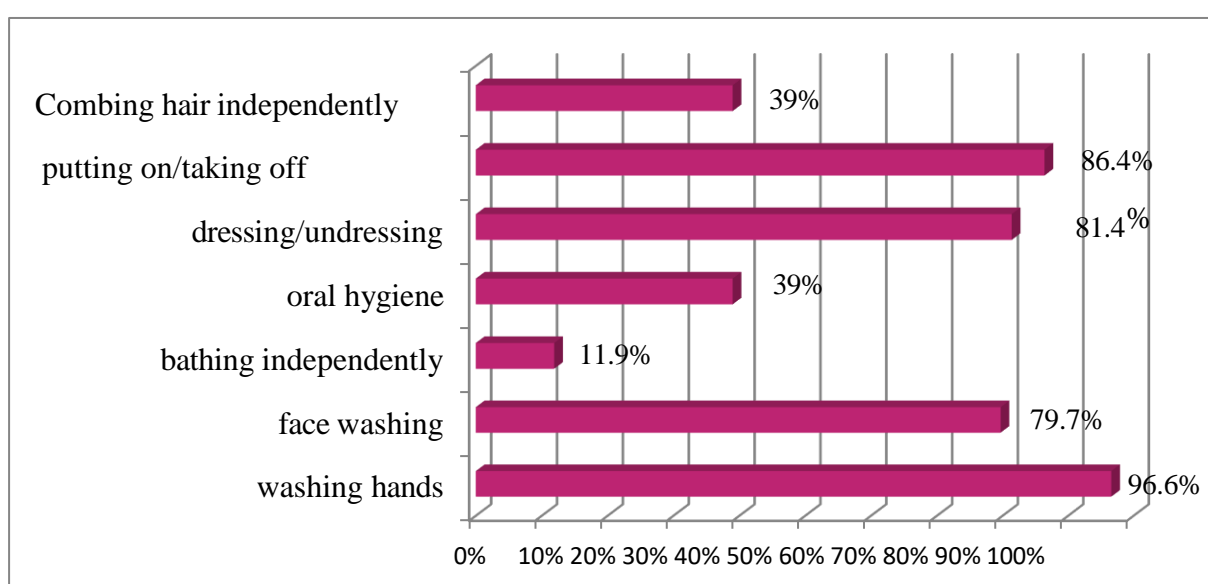


Figure 16. Health habits developed in Roma children after attending kindergarten.

There is undoubtedly an increase and consolidation of all health habits among Roma children after attending kindergarten and working with teachers (Table 6).

Table 6. Comparison of health habits developed by Roma children before and after attending kindergarten.

Hygiene habit	BEFORE attending kindergarten	AFTER attending kindergarten
Hand washing	78%	96.6%
Face washing	52.5%	79.7%
Independent bathing	11.9%	11.9%
Independent hair combing	11%	39%
Oral hygiene	13%	39%
Dressing/undressing underwear	47.5%	86.4%
Independent dressing/undressing clothes	74.6%	81.4%

Missing out on health topics included in the kindergarten curriculum due to irregular attendance can lead to significant deficits in children's development at a later stage. Missing the most appropriate period and age significantly hinders children's development of hygiene stereotypes aimed at acquiring healthy habits and socialisation.

A lack of parental involvement can also hinder the consolidation of healthy habits outside kindergarten. In some families, health culture is not prioritised, requiring additional efforts from teaching staff.

Another major emerging problem, regardless of whether the child attends a nursery or kindergarten, is the shortage of nurses, psychologists, speech therapists, art therapists, Roma language assistants/mediators, and other specialists. These professionals help to create an inclusive environment that meets the diverse health and social needs of children in early childhood.

3. Analysis of the health habits and skills of children aged 0–7 living in a Roma community, according to medical specialists

A total of 50 health professionals working mainly with Roma children in health centres located in the largest Roma neighbourhood in Plovdiv, Stolipinovo, were surveyed. The distribution by professional field is as follows: 18 doctors (36%), including GPs/paediatricians, physiotherapists, ENT specialists, and dentists.

- ✓ 18 doctors (36%), including general practitioners/paediatricians, physiotherapists, otolaryngologists, and dentists
- ✓ 32 (64%) healthcare specialists - 68% with a Master's degree, 14% with a Bachelor's degree, 14% with higher education and 4% with secondary specialised education.

The average age of participants was 53.92 ± 1.71 years, with 34% over the age of 60. It is noteworthy that 14% had 10 years of professional experience, 14% had 20 years, and 44% had over 31 years of experience. The average length of service is 28.4 ± 1.8 years.

According to the health professionals surveyed, the most common diseases among Roma children aged 0–7 years are acute respiratory infections, bronchitis/pneumonia and gastroenteritis (Figure 17).

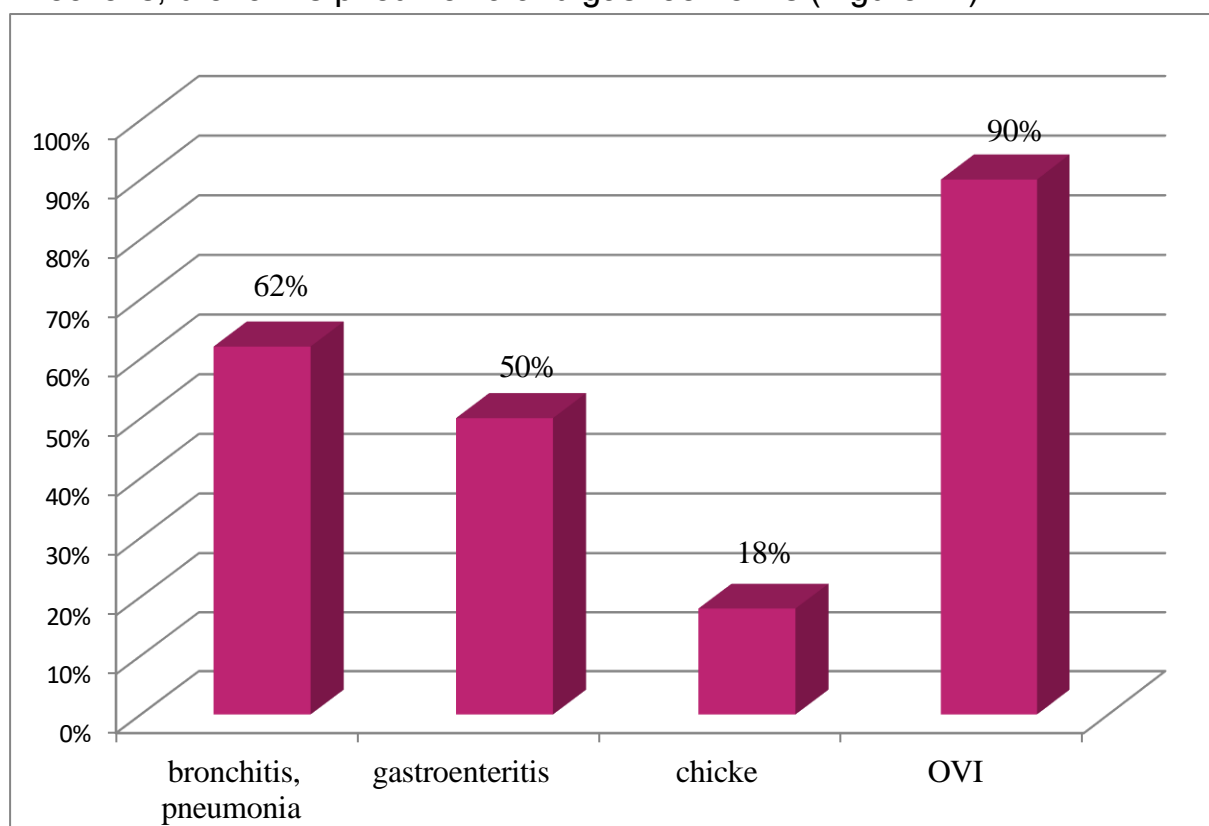


Figure 17. Most common diseases among Roma children aged 0-7 according to health professionals

III. RESULTS AND DISCUSSION

The surveyed medical specialists provide significant information about the frequency of certain infectious and socially significant diseases among the child population (Figure 18).

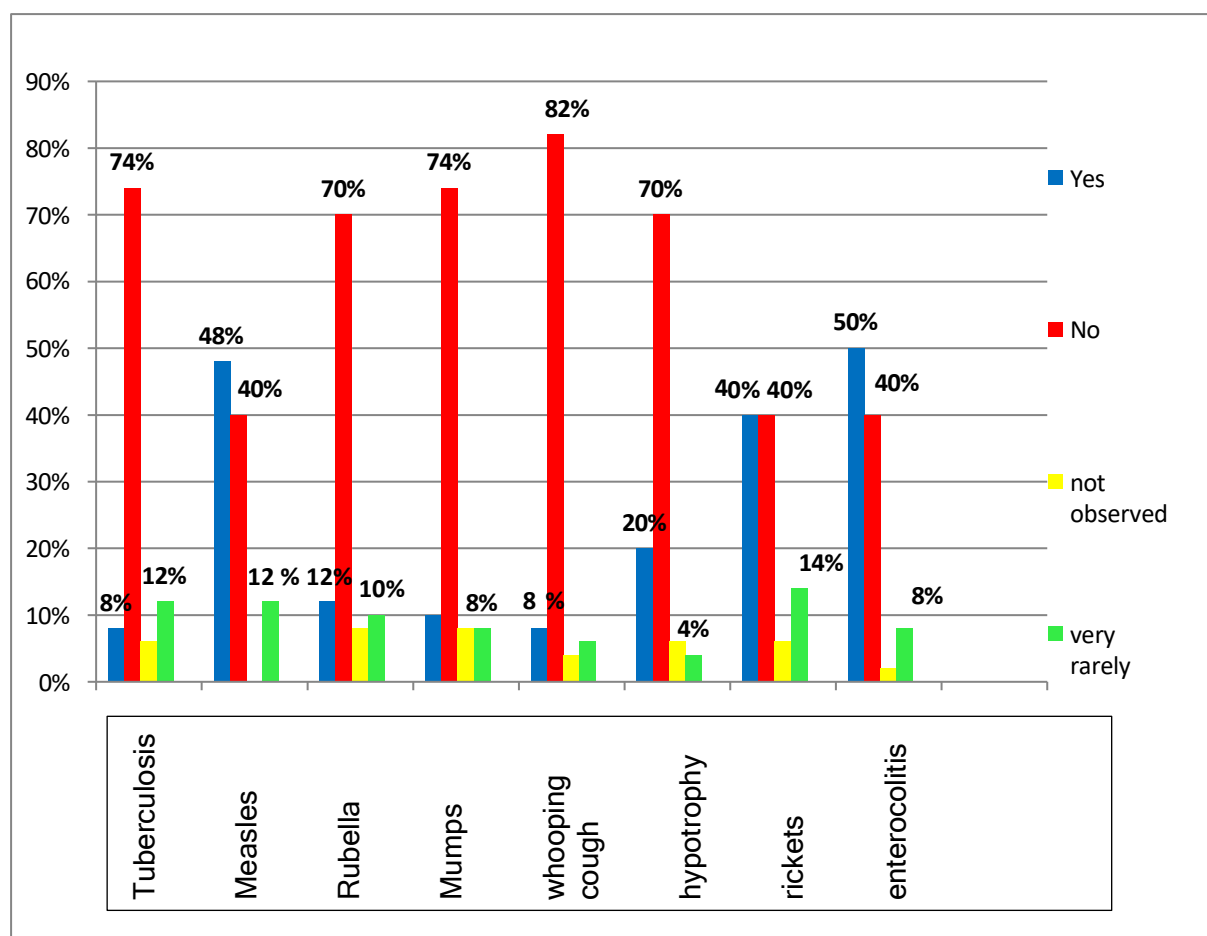


Figure 18. Increase in the incidence of certain infectious and socially significant diseases over the last 5 years.

The results highlight several worrying trends, particularly within multicultural and socially vulnerable communities. Around half of respondents (48%) report an increase in measles cases. This figure is significantly higher than that for other infectious diseases. This increase may indicate gaps in immunisation coverage, such as children not attending vaccination appointments, parents refusing vaccines, or poor monitoring of immunisation schedules.

The next question in the survey aims to determine parents' attitudes towards the immunisation schedule and the frequency with which mandatory childhood vaccinations are refused. This is a key factor in preventing infectious diseases and ensuring the effectiveness of public healthcare (Figure 19).

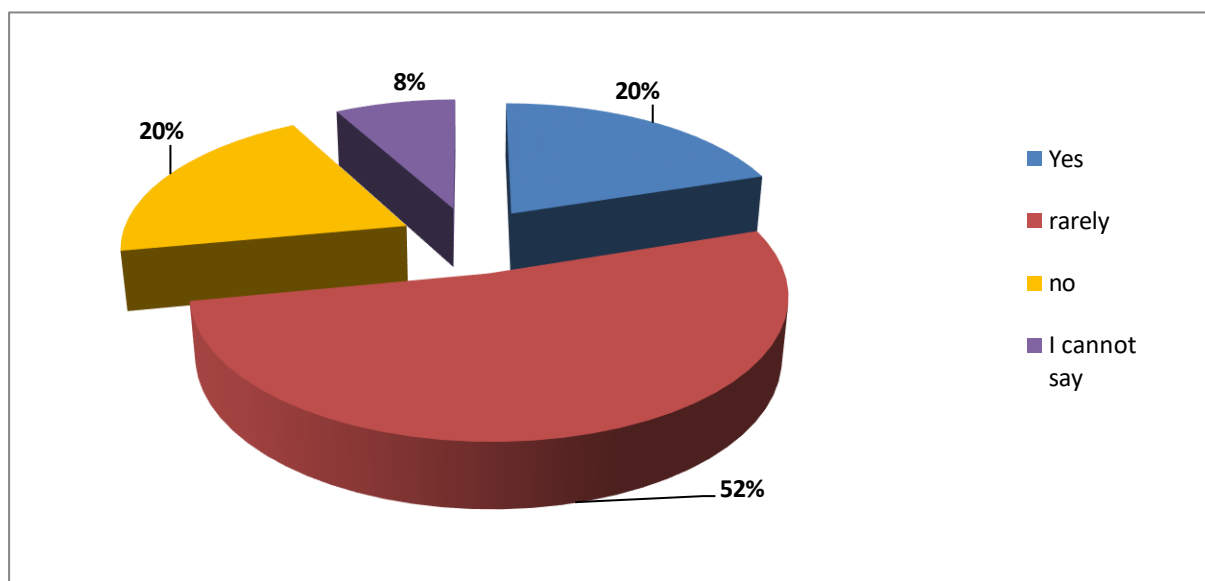


Figure 19. *Willingness of Roma parents to immunise their children*

More than half of respondents (52%) gave the predominant response of 'rarely', indicating that, despite isolated refusals, widespread rejection of immunisations is not a dominant phenomenon. This suggests inconsistent parental commitment, as well as doubts and fears that may be exacerbated by inadequate communication and health education. Twenty per cent of specialists report a categorical refusal of immunisation. This is an alarming trend, particularly given the resurgence of preventable infections such as measles and whooping cough. However, 20% of specialists say they do not encounter refusal, showing a positive trend in some circles, probably among parents with a higher level of awareness or trust in health institutions.

Low participation in preventive check-ups limits the possibility of the early detection and timely treatment of childhood diseases. Targeted health education campaigns aimed at parents, especially those in vulnerable communities, are needed (see Figure 20).

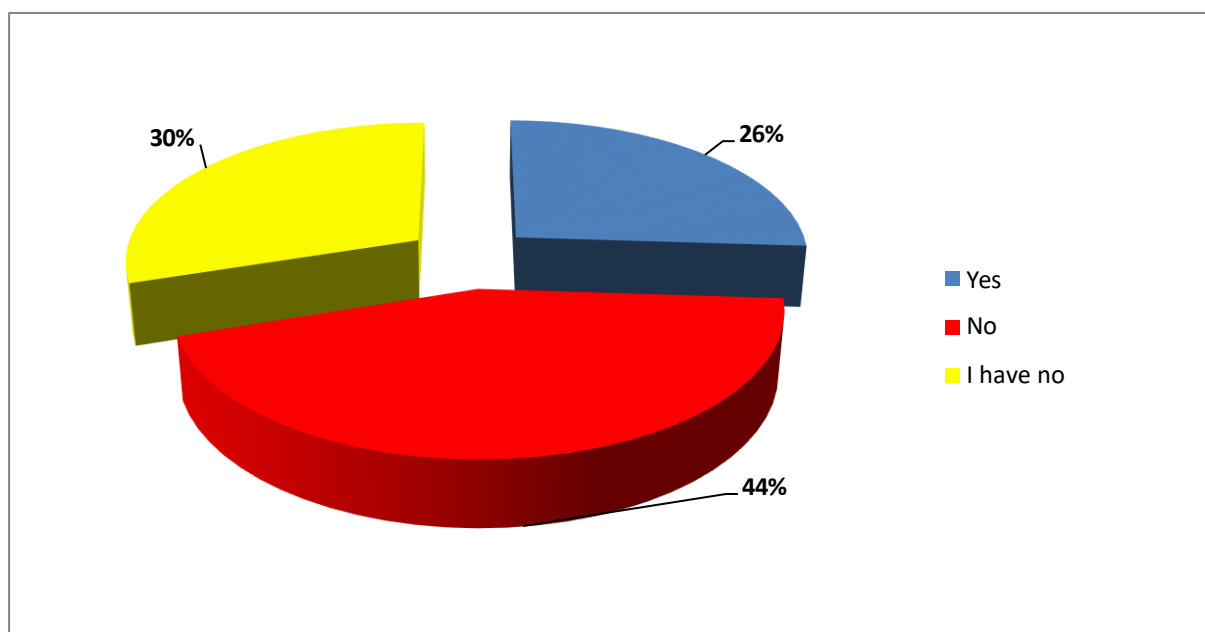


Figure 20. *Compliance with the days for child consultation*

This study attempted to assess the extent to which parents comply with the pre-arranged days and times for vaccinating their children. The processed data clearly show that a significant majority of parents do not strictly adhere to the immunisation schedule.

Only 10% of specialists say that parents always adhere to the pre-arranged conditions. 68% of the specialists surveyed report that parents do not always show up on the agreed day and time for immunisation; 12% indicate that parents categorically do not adhere to the schedule. These results call into question the effectiveness of the system for pre-booking immunisation appointments, especially in socially vulnerable groups. The data also reflects a low level of parental involvement, which can lead to delays or missed mandatory vaccinations, and thus to an increased risk of outbreaks of preventable infectious diseases.

When examining key hygiene habits and skills developed in early childhood, data from a survey of 50 medical professionals reveal significant deficits in children's acquisition of basic personal hygiene and self-care skills. The analysis reveals social and behavioural deficits that hinder

the full development and upbringing of children in this age group. Although 98% of respondents say that children have at least some health habits, analysis of some of them (eating, hygiene, daily routine) shows that these habits are poorly developed or inconsistently applied (Figure 21).

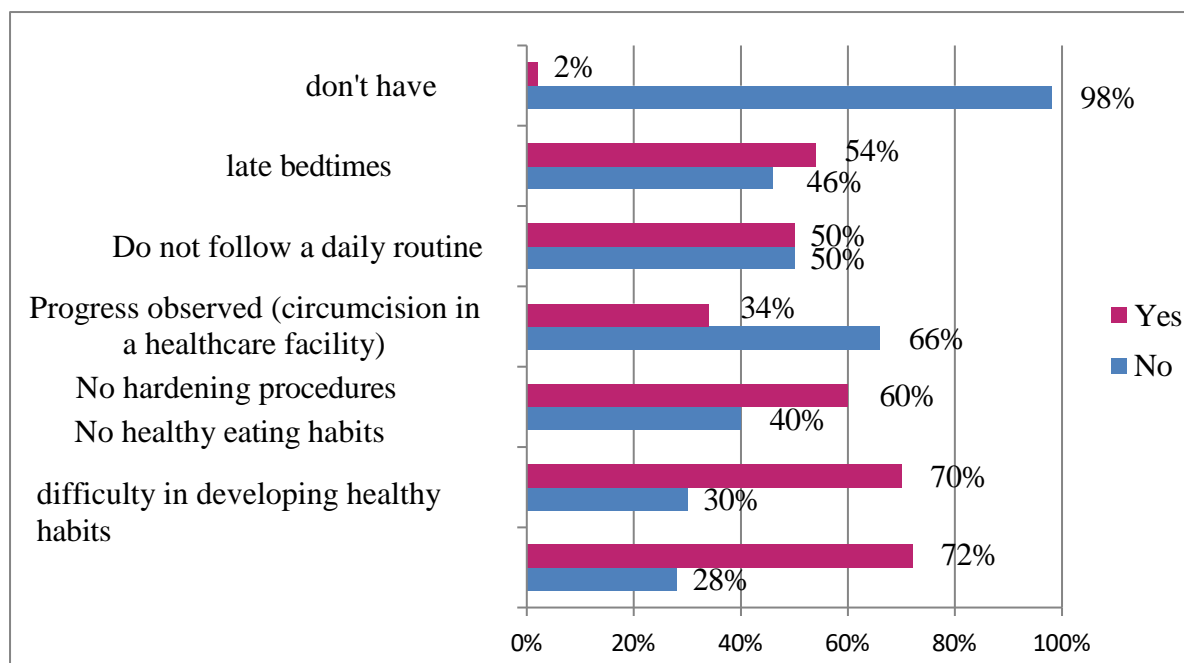


Figure 21. General habits developed in Roma children according to medical specialists

Health professionals are absolutely certain that the family environment directly impacts the development of healthy habits in children up to the age of seven.

The foundations of a child's upbringing are established within the family. Later on, various educational institutions (kindergarten and school) reinforce and shape the remaining habits.

The most common difficulties encountered by medical professionals in their daily practice are language barriers and a lack of health awareness. The grandmother often acts as the main mediator in communication, leading to a loss of direct contact between the medical team and the parents, and sometimes the child too (Figure 22).

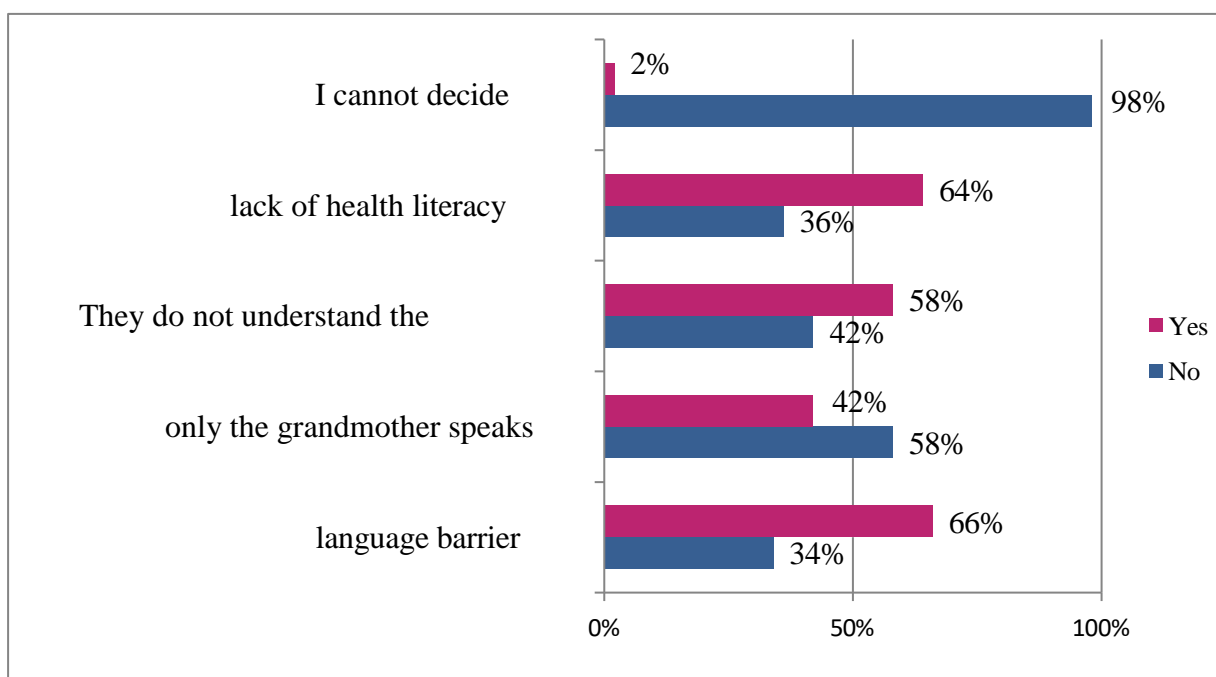


Figure 22. Difficulties faced by medical professionals when working with Roma parents

To identify the social and professional figures who influence children's health habits, a comparative analysis of responses in seven categories was conducted. The results revealed clear differences in the level of trust and recognition accorded to each individual.

'Nurses' were cited as the most influential figure (90%). This high level of trust is associated with their frequent and accessible contact with children and parents, particularly in kindergartens and at preventive check-ups. In the Roma community, where there is often a degree of reserve towards outsiders, nurses are seen as familiar and accepted, making them a vital source of health education.

The second most influential figure is the "personal doctor", with 82% responding "rather yes". This confirms their role as an accessible, authoritative and trusted intermediary in the healthcare system, which is especially important in communities with lower health literacy. The personal doctor is often the only representative of the health system with whom families maintain regular contact.

Despite their high level of medical competence, medical specialists are not considered particularly influential in shaping children's health habits. The high proportion of respondents who chose the answer 'I cannot decide' (46%) is probably due to limited access to specialised care or a lack of direct, continuous communication with children.

This highlights the need for specialists to have a clearer role and greater visibility in health prevention processes, particularly when working with children.

Kindergarten teachers are also considered important educational figures, with 66% of medical professionals answering "rather yes". This indicates the significant role of preschool education in socialisation and developing healthy habits. However, almost a third of respondents were unable to assess this group's influence, which may reflect an unclear understanding of teachers' role in health education.

The figure of the 'preschool teacher' is distinguished by the lowest level of confidence among respondents – only 24% answered positively, while 54% answered 'I cannot assess'. This can probably be explained by limited practical experience of, and interaction with, preschool teachers.

The results of the analysis show that the most influential figures in forming children's health habits are those frequently and directly involved in their daily lives and those of their families: nurses and general practitioners.

Those with more limited access or less familiar roles remain in the background of parents' and professionals' minds, highlighting the need to raise awareness of their role and strengthen cooperation between institutions.

When asked about the influence of an older person with authority in a Roma family, 66% of respondents answered 'rather yes'. These answers highlight the cultural factor in upbringing. The older person with authority in the Roma family is perceived as a key figure in establishing norms, including health norms. This demonstrates that medical professionals working in the Roma community have a good understanding of the socio-cultural characteristics of the Roma. At the same time, however, it confirms the need for culturally appropriate approaches in health policy (Figure 23).

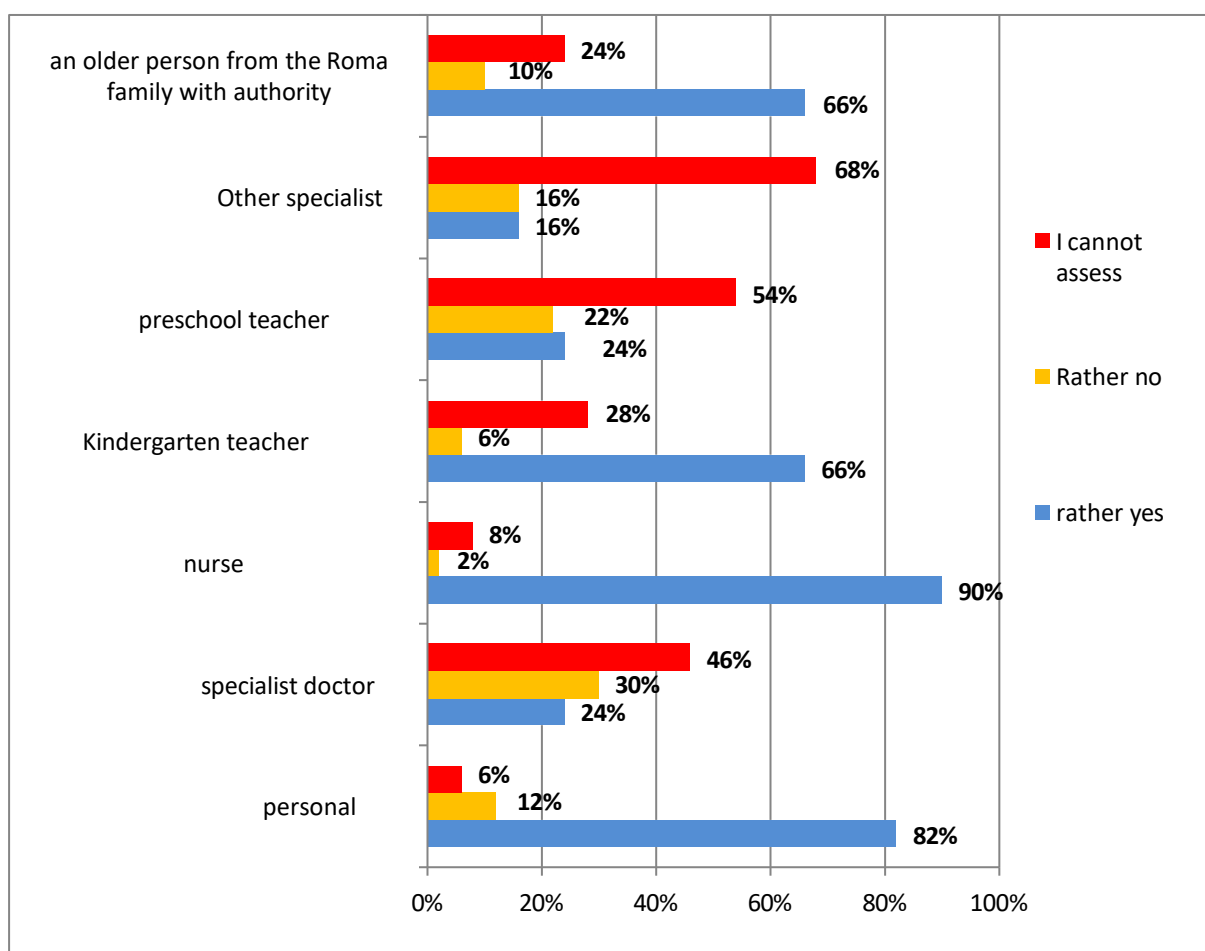


Figure 23. Factors that may influence Roma people in terms of developing healthy habits

Analysing the traditions and cultural characteristics of the Roma community reveals specific cultural patterns of behaviour that directly or indirectly influence the development of healthy habits in children. These patterns are closely related to lifestyle, family structure, traditional beliefs, and the community's social organisation. Some of these practices are deeply rooted in the community and have been passed down through generations. They are the result of a combination of beliefs, social models and economic realities. However, some pose potential risks to children's health and require careful, culturally sensitive intervention.

Based on the collected data and observations, four key practices emerge as particularly significant for children's health and well-being (see Figure 24).

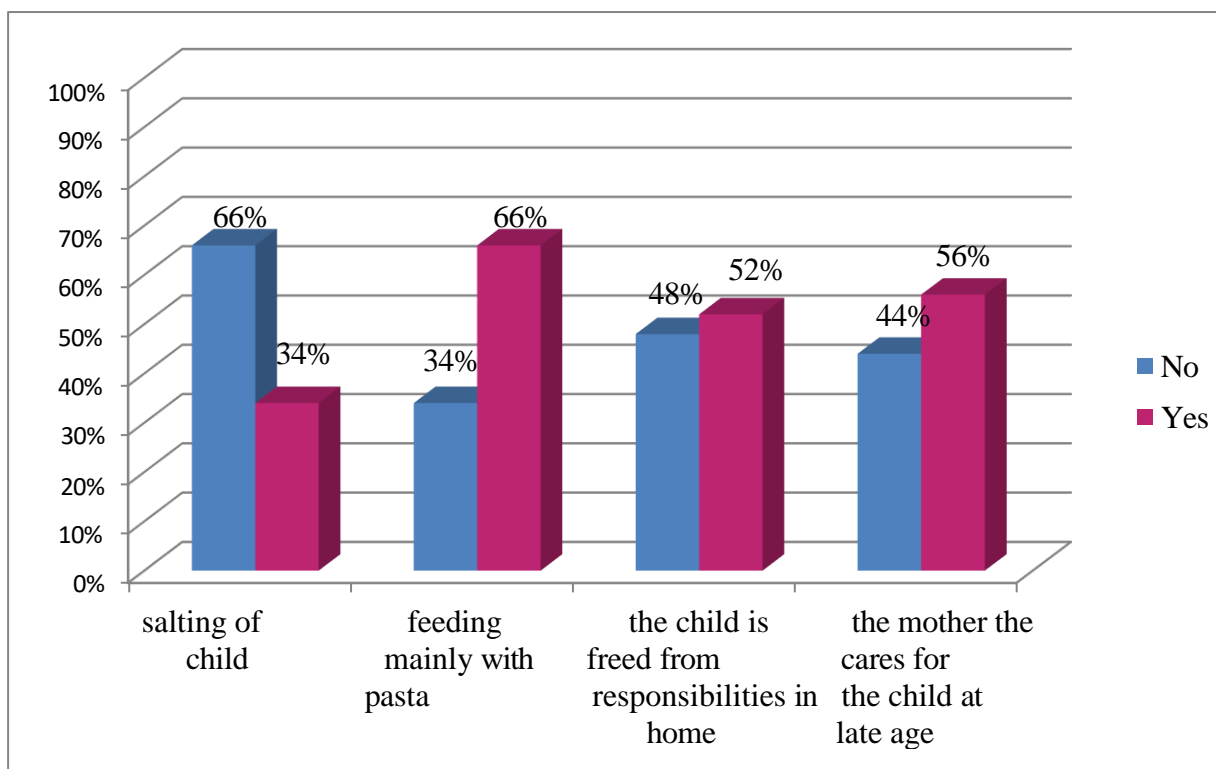


Figure 24. Traditions influencing the health habits of Roma

4. Conceptual model of a plan for developing health skills and habits in children from the Roma community (0–7 years)

Good health is essential for every child to enjoy an active and fulfilling lifestyle. Helping children from the Roma community to develop healthy habits and skills is an important way of improving their overall well-being and integration into society. This conceptual model offers a structured, practical approach to developing these critical skills among Roma children. It is tailored to the cultural characteristics of this ethnic group. It is based on the understanding that effective health education requires the cooperation and commitment of families, educational institutions, and health institutions. Integrating traditional knowledge and modern health practices will create sustainable habits that support children's overall development.

The plan includes five main components: providing the necessary resources, building a partnership network involving various institutions and organisations, implementing processes with different groups of participants, analysing the results obtained, and continuous monitoring and evaluation.

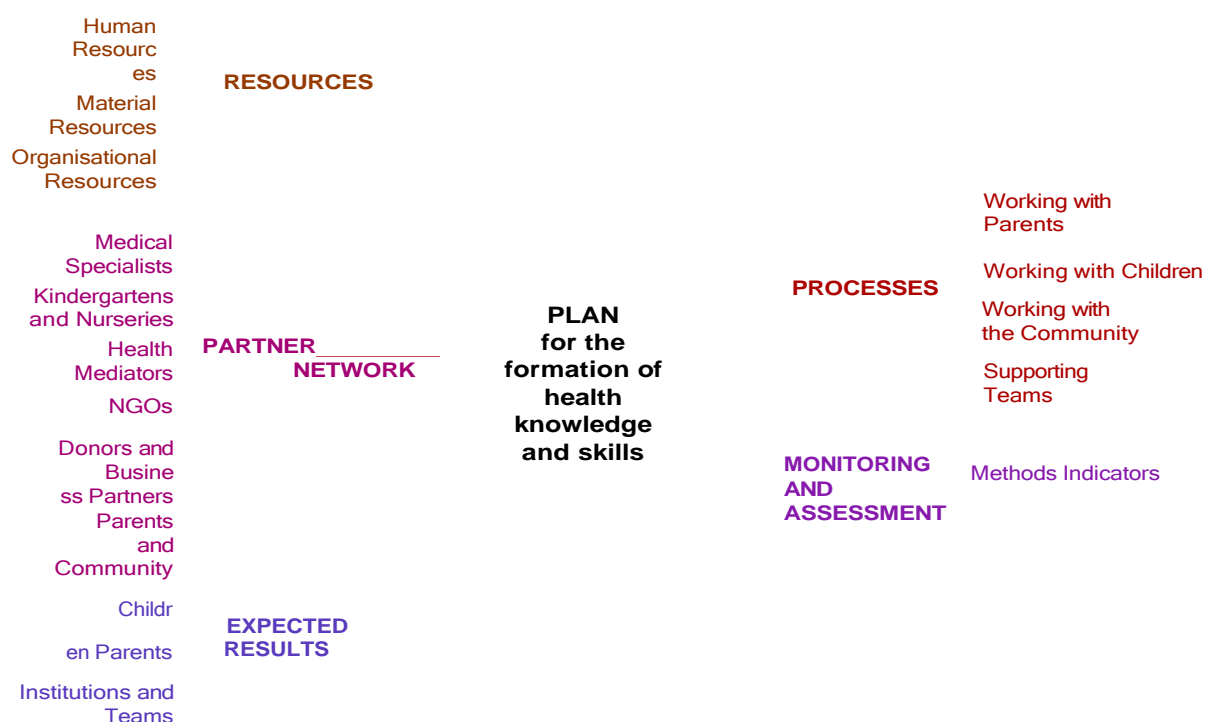


Diagram 1. Conceptual model of a plan for developing health skills and habits in children from the Roma community (0–7 years)

Through these components, the model will ensure the strengthening of children's physical, mental and social health. Creating equal opportunities for all children, regardless of their origin, is at the heart of this model. Innovative approaches and interdisciplinary partnerships are proposed to build a sustainable healthy environment and improve quality of life.

1. Basic health habits that need to be formed

- 1.1. **Personal hygiene** – morning and evening hygiene routines, including washing hands and body, oral hygiene, keeping hair and clothes clean.
- 1.2. **Healthy eating** – regular meals, choosing healthy foods, limiting sweets and fizzy drinks.
- 1.3. **Physical activity and sleep** - daily routine, daily exercise and games, sufficient time for sleep and rest.
- 1.4. **Safety and disease prevention** – avoiding risky situations, knowing basic safety rules and the importance of immunisation status.
- 1.5. **Habits of visiting health and educational institutions** – regular check-ups, attending kindergarten and participating in community health activities.

2 Creating partnerships

Building partnerships between different institutions and the community is key to the success of any programme related to children's health and education.

2.1. Medical professionals (doctors, paediatricians, dentists, nurses)

- ✓ Conduct preventive check-ups in kindergartens and nurseries.
- ✓ They organise information meetings for parents on the need for vaccinations, healthy eating, personal hygiene and disease prevention.
- ✓ Health education activities – preparation of brochures, posters, presentations (in accessible language).
- ✓ They cooperate with health mediators for better communication with Roma families, especially in cases of mistrust of health institutions.

2.2. Nurseries and kindergartens

- ✓ The main environment in which daily health habits are formed.
- ✓ Teachers work through games, songs and practical activities - washing hands, brushing teeth, tidying up, eating with cutlery, etc.
- ✓ They establish partnerships with local doctors, dentists, nurses and mediators to conduct health days and check-ups.
- ✓ They encourage inclusion of parents in school life and joint health initiatives.

2.3. Health mediators

- ✓ They build bridges between the Roma community and the health system.
- ✓ They assist parents in registering their children with a general practitioner, obtaining immunisations and accessing medical care.
- ✓ They participate in educational activities in kindergartens and schools, explaining health topics in understandable language.
- ✓ They promote positive examples in the community - mothers who practice good hygiene, provide a balanced diet and take their children for regular check-ups.

2.4. Non-governmental organisations NGOs and Medical University

- ✓ Develop and implement educational and health projects funded by national and international programmes.
- ✓ They provide additional resources – hygiene packs, vitamins, sports equipment, etc.

2.5. Donors and business partners - provision of hygiene kits, materials and awards.

- ✓ Support initiatives through funding, donations or materials - sports equipment, hygiene kits, fruit for children, etc.
- ✓ They can participate in corporate social responsibility campaigns focused on health and education.
- ✓ They promote sustainability of programmes, by assisting them continue after the end of project funding.

2.6. Parents and the Roma community - active family support and assistance.

- ✓ They play a key role in reinforcing healthy habits in children.
- ✓ They should be actively involved, not just informed – through workshops, demonstrations and joint events.
- ✓ Teachers and mediators can encourage parents to be positive role models – when children see their mum and dad taking care of themselves, they follow suit.

- ✓ Community leaders, spiritual leaders and active residents can help promote the acceptance of health initiatives and increase trust.
- ✓ Neighbourhood meetings are organised to discuss important topics **such as** vaccines, diseases and healthy eating.
- ✓ The involvement of respected and influential figures from the Roma community makes the messages more convincing.

Possible forms of partnership and coordination could include:

- Creation of a local coordination team including representatives of all partners.
- Regular meetings (e.g. once a month) to discuss results and needs.
- Exchange of information between institutions – on attendance, health problems, support needs.
- Monitoring and evaluation of results – how many children attend check-ups, immunisations, improve hygiene habits, etc.

Successfully building healthy habits among children from the Roma community requires a comprehensive, coordinated and inclusive approach.

This process cannot be achieved by educational or health institutions alone – it requires active cooperation between parents, the community, medical professionals, health mediators, local authorities and businesses. Partnership ensures sustainability, trust and real changes in the behaviour and attitudes of children and their families.

3 Key activities (processes) for implementing the plan

- 3.1. **Working with parents and the community** - meetings, discussions, identifying needs, engaging a health mediator.
- 3.2. **Educational and practical activities** - thematic lessons and demonstrations, games, stories, drawings and role-playing situations.
- 3.3. **Support and monitoring** - home visits, individual health advice, progress tracking.
- 3.4. **Public initiatives** – Health Week, campaigns, theatre performances, distribution of hygiene kits.
- 3.5. **Assessment and feedback** - monitoring changes in habits, interviews with parents, reporting on results.

4 Expected results

4.1. For children (0–7 years)

- acquisition of basic health habits (hygiene, nutrition, exercise);
- increased awareness and motivation for a healthy lifestyle;
- reduction in cases of irregular immunisation and poor hygiene;
- improved health status of children;
- reduction in the frequency of illness and absenteeism.

4.2. For parents

- better informed parents;
- improved health literacy and childcare skills;
- more active participation in educational and health activities;
- improved communication with institutions;
- increased trust of the Roma community in health and education institutions.

4.3. For the team and partners

- better coordination between institutions;
- a sustainable model for community work;
- accumulated experience and good practices for multicultural health work;
- a sustainable model for health education that can be applied in different localities.

5 Monitoring and evaluation

Monitoring and evaluation represent a systematic process of tracking, analysing and assessing the implementation of planned activities, results and impact. The aim is to ensure that the plan for building healthy habits among children from the Roma community is implemented effectively; leads to real and measurable improvements in health behaviour; and allows for timely correction of activities when they deviate from the expected results.

Monitoring and evaluation are tools for improving the quality, effectiveness and sustainability of initiatives. They include:

- observation of participation and engagement of children and parents;
- regular assessment of changes in habits;
- keeping records and preparing periodic reports;
- feedback from parents and teachers.

The main principles are continuity, objectivity and transparency, and effective participation of all stakeholders. The results of the monitoring and evaluation will be used for:

- updating the action plan in accordance with the conclusions of the monitoring;
- improving health education methods and working with parents;
- sharing good practices with other kindergartens, schools and municipalities;
- preparing recommendations for sustainability and future initiatives;
- improving the quality and effectiveness of all activities;
- responding promptly to problems or shortcomings;
- greater trust and transparency between partners and the community;
- improved healthy habits and better health for children.

Systematic and continuous monitoring and evaluation of the action plan are key to ensuring the effectiveness and sustainability of initiatives aimed at encouraging healthy habits among children in the Roma community. Active participation from all partners, including educational and health institutions, non-governmental organisations, parents, mediators and the local community, ensures transparency and accountability, as well as providing an opportunity to improve the quality of life for children. Creating a joint monitoring, analysis and correction system provides a foundation for long-term change in attitudes and behaviour, placing children's health at the heart of community development and ensuring a sustainable impact.

IV. CONCLUSIONS

Based on the analysis and summary of the collected data, the main conclusions of the study have been formulated. For greater clarity and consistency, the conclusions have been divided into several thematic groups.

I. Assessment of the health status of Roma children

- ✓ Significant gaps in immunisation coverage among Roma children have been identified, creating a risk of an epidemic resurgence of certain infectious diseases.
- ✓ There is an increased incidence of diseases among the ethnic group studied, such as rickets, hypotrophy and enterocolitis, which medical specialists attribute to malnutrition, poor hygiene, insufficient information and low health literacy.

II. Health skills and habits

- ✓ Most children of Roma origin enter kindergarten without having developed basic hygiene skills and habits. After regular attendance at kindergarten, significant progress is observed in their acquisition.
- ✓ The most sustainable of the hygiene habits formed is hand washing, but this habit has not yet been permanently acquired and applied daily by all children of Roma origin.
- ✓ About half of the children of Roma origin do not show independence in satisfying their physiological needs and are unable to dress and undress themselves by the age of 5.
- ✓ Oral hygiene is not considered a priority among this ethnic group.
- ✓ The lack of systematic encouragement of children's independence is a significant shortcoming in the upbringing process. In most families, mothers perform hygiene tasks instead of their children, which limits the development of health skills and habits.

III. Cultural characteristics and practices

- ✓ The young and immature age at which Roma become parents, the lack of health education and gaps in school education lead to a deficit in parental care.
- ✓ Significant gaps have been identified in the eating habits of children of Roma origin, including refusal to breastfeed, premature and inappropriate feeding, lack of established eating habits and a predominance of semi-prepared and fast foods, leading to long-term nutritional deficiencies and increased health risks for children.
- ✓ Bulgarian families provide a more balanced diet than Roma families.
- ✓ Most of the Roma and Bulgarian families surveyed do not use the children's milk kitchen.
- ✓ There is a lack of routine and culture of eating, sleeping and hardening among Roma children.
- ✓ Certain traditional cultural practices are associated with increased health risks.
- ✓ Children are not involved in household chores, which means they have no opportunity to develop personal responsibility.
- ✓ The grandmother often plays the role of authority figure and mediator in health decisions, which in some cases leads to the recommendations of specialists being ignored.

IV. Communication and education

- ✓ More than half of medical professionals and educators cite the language barrier as a major problem in communication and in the performance of their duties.
- ✓ There is a low level of health literacy among parents of Roma origin, with half of them not understanding the meaning of medical explanations or instructions. There is a lack of understanding of the importance of preventive measures.
- ✓ There is a lack of adapted educational methods for bilingual children.
- ✓ There are insufficient visual, practical and multimedia materials.
- ✓ Teachers are not perceived by Roma as an authority on health issues.

V. Role of institutions and the educational environment

- ✓ Roma children attend kindergarten irregularly, which interrupts the educational process.
- ✓ Kindertartens do not systematically include health education.
- ✓ There is a lack of methodological training for teachers to work in a multicultural environment.
- ✓ Parental involvement in the educational process is weak.

V. RECOMMENDATIONS

The results of the study provide grounds for formulating the following recommendations, which could help improve existing approaches and policies.

1. To the Ministry of Health:

1. Conducting information and prevention campaigns targeting parents from vulnerable communities, emphasising the importance of immunisation, nutrition, hygiene and early childhood development.
2. Improving communication with Roma families by working with health mediators and cultural intermediaries.
3. Expanding mobile health services and the network of health mediators who work with doctors, nurses, social workers and educators on prevention, screening and health education for Roma.
4. Developing inter-institutional cooperation through integrated teams providing comprehensive care for children aged 0-7, with a focus on at-risk communities.

2. To Ministry of Education and Science and Medical Universities:

1. Integrating health education into the curricula of childcare facilities in areas with a predominantly Roma population, through topics on hygiene, nutrition and health behaviour adapted for bilingual children.
2. Training educators and medical professionals to work in a multicultural environment and promoting children's independence and health culture.
3. Introducing academic disciplines and postgraduate programmes at medical universities related to the cultural characteristics of the Roma community and practical skills for working with ethnic minorities.
4. Ensuring support for scientific research in different micro-communities and using the results for developing precise planning of prevention and policies.
5. Encouraging parental involvement and education through accessible programmes for building parental competences and responsible health behaviour.

VI. SCIENTIFIC AND PRACTICAL CONTRIBUTIONS

Scientific contributions:

1. The main social, cultural and economic factors that influence the formation of health habits in Roma children aged 0 to 7 years have been studied and analysed.
2. A comparative analysis was made between Roma and Bulgarian families regarding childcare, nutrition, hygiene habits and parenting practices, revealing specific cultural patterns of behaviour.
3. The attitudes of medical professionals and educators towards the difficulties and specifics of working with Roma children in the context of health education and multicultural communication are examined.
4. Leading figures with potential for health impact have been identified, among whom nurses, general practitioners and older family members stand out. The analysis highlights the need for culturally sensitive and inter-institutional approaches.

Practical contributions:

1. A conceptual model has been developed for a plan to build health skills and habits in children from the Roma community (aged 0-7), which can be used as a working tool for intervention and improving health behaviour in vulnerable groups. It has significant practical value for both the education and health systems and for professionals working in a multicultural environment.

2. A basis has been established for the development of educational programmes aimed at improving parental competence and prevention through the early development of health habits.

VII. LIST OF PUBLICATIONS AND PARTICIPATION IN SCIENTIFIC FORUMS IN CONNECTION WITH THE DISSERTATION

Publications in national and international journals:

1. **Boycheva N.**, Velichkova M. The role of the family in forming healthy sleep habits in preschool children from the Roma community. *Nursing Science*, vol. 57, issue 4, 2025 – in press
2. **Boycheva N.**, Velichkova M. "We live healthily" - a technological model for interaction with parents. *Nursing Science*, vol. 57, issue 4, 2025 – in press
3. **Boycheva N.** The game - a basic method for building health habits in children living in a Roma community p. 99
The Multidimensionality of Education in the 21st Century, Volume I
Preschool and Early School Education A multi-author monograph
edited by Anna Klim-Klimaszewska
[i] WN IKRiBL Siedlce, 2022 Poland ISBN 978-83-66597-50-1

Participation in scientific events in Bulgaria and abroad:

1. Wielowymiarowość edukacji XXI wieku tom I Edukacja przedszkolna i wczesnoszkolna, 2022 Poland