

## MAPPING STUDY REPORT OF GENERAL HEALTH OF FAMILIES WITH YOUNG CHILDREN IN RURAL AREAS IN THE BORDER REGION

Health care in FYR Macedonia is a fundamental human right, guaranteed in the state constitution. Health care is organized in three levels, in terms of complexity and specialization of services. Primary care is the backbone of the healthcare system and is executing more than 80 % of health services. Currently, primary care is organized in a network of health care teams of general and family medicine, as well as dental, gynecological and pediatric teams, working on the principle of chosen doctor. Rural population in the country has a different access to healthcare services than the urban population. These citizens receive basic healthcare services in primary healthcare settings, which often are more than 30 km away from their home. It is a rarity to have an available medical team in villages with less than 1000 inhabitants in the community.

From a public health perspective it is especially important to know the specific needs of the rural population. Therefore, the main goal of health mapping was to identify the health care needs of families with young children from rural areas in the municipality of Bitola and municipality of Novaci, to obtain data on the health status of the population, and to identify areas of healthcare that this population requires additional education and prevention.

### METHODOLOGY

Field research / mapping was conducted in 11 villages in the municipalities of Bitola and Novaci. Mapping methodology was created by the teaching staff of Higher Medical School Bitola through review of public health literature and previous research experience of all involved. As mapping instruments we used specially designed questionnaires for health status of children, adult family members and a questionnaire for public health conditions in the household. The mapping was conducted in three phases.

The first phase contained creation of questionnaires through a process of designing items, selection of the optimal target items and final technical review and processing of the questionnaires. The questionnaire for health status of children consists of 51 items with multiple answers. The questionnaire for health status of adult family members consists of 62 items, 11 additional items for women and 23 items for geriatric population. The questionnaire for public health conditions in households contains 10 items on social, sanitary and nutritional conditions in families.

The second phase of mapping was conducted in the homes of families with preschool children aged 0-6 years in rural areas in the border region. Villages that were included in the mapping study were Logovardi, Zabenj, Egri, Gorno Orizari, Dolno Orizari, Porodin, Poeshevo, Germijan, Kremenica, Medzitlija, Opticari and Lazec. Interviews were conducted with families in their homes, where interviewers collected data on all family members. At the beginning of each home visit, parents were informed about the purpose of the visit and verbal consent for their involvement was requested. In the second phase of the mapping study 612 questionnaires were completed.

In the third phase of the mapping study we proceeded with analysis of questionnaires from 113 households, 336 questionnaires from adult family members and 163 questionnaires from children. Database was created and statistical analysis was performed.

### BRIEF DESCRIPTION OF RESULTS

*Descriptive statistics of interviewed families with children of preschool age (0-6 years) in every village:*

Number	Village	Number of interviewed families	Number of interviewed children	Number of interviewed adults
1.	Germijan	10	12	18
2.	Orizari	23	37	58
3.	Egri	13	19	54
4.	Zabenj	9	12	33
5.	Kremenica	6	8	14
6.	Lazec	9	11	25
7.	Logovoradi	12	20	34

8.	Medzitlija	5	7	9
9.	Opticari	7	10	28
10.	Posevo	12	16	43
11.	Porodin	7	11	20

### ***Profile of the border region according to the characteristics of families with small children***

The villages in the border region, families with children 0 to 6 years of age have an average 5.7 family members. Most families with young children live in extended families (70%). Regarding the employment status of the parents, 41.7% of the able population has a working relationship.

Identified features of households-113 households	
Type of water supply	Well – 2,67 %
Location of toilets	Inside the house-63,71% Outside the house-8.85% Drainage connector (sanitation)-7.97% Septic tank-19.47%
Percentage of families that do not consume dairy products at all	2,70 %

### ***Health profile of the border region according to the characteristics of children aged 0-6 years***

Identified features of children-163 children	
Gender distribution	Male -56,4% Female – 43,6%
Average age	37.04 months
The course of pregnancy was:	<ul style="list-style-type: none"> <li>• Normal- 93,8 %</li> <li>• Troubled-6.2%</li> <li>• Health problems-4.65%</li> <li>• Psychological problems-0.39%</li> <li>• Other-1.16%</li> </ul>
Maternal age at birth	< 20 age – 11,11 % 21-34 age – 80,86% 35 – 49 age – 8,03 %
Mother's illnesses during pregnancy	Anemia-78.57% Elevated blood pressure-16.67% Infections-4.76%
Percentage of mothers who received drugs during pregnancy	Yes – 18, 52 % No - 81,48 %
Percentage of mothers who smoked during pregnancy	Yes – 0,61 % No – 99,39 %
Method of child birth	Spontaneous-69.94% Caesarea -28.22% Vacuum -1.23% Other-0.61%
Risks during childbirth	Premature birth and low weight at birth-20% Asphyxia-33.33% Other problems -26.67%
Percentage of breast fed children	Yes – 91,41 % No - 8,59 %
Reasons for non-breastfing	Maternal problems-61.4% Child's issues-38.6%
Duration of breastfeeding	Less than 3 months-21.13% 3-6 months-20,42% 6-9 months-19.72%

	12 months-16.90% Longer than 12 months-21.83%
Reasons for discontinuation of breastfeeding	Agalaktija-55.55% Mother's illness-3.03% Mother's necessity to take medications-1.01% Separation of the child-4.04% Causes of the child-21.21% Other -15,16%
Percentage of children receiving adapted milk formula in the first 12 months of life	47,02 %
Period in which adapted milk was introduced	Before the 3 <sup>rd</sup> month-38.37% 3-6-th month -32.56% after the 6 <sup>th</sup> month-12.8% after the 9 <sup>th</sup> month-16.29%
Percentage of children who received cow's milk in the first 12 months of life	72,18 %
Percentage of children who did not receive some nutritional products in the first year of life	Fruit -6.41% Vegetables-9.62% Meat-30.12% Milk and products of milk-22.43% Eggs-31.42%
Percentage of regularly vaccinated children	YES – 97,57 % NO- 2,43 %
Percentage of children who suffer from illnesses	Anemia and other blood disorders-1.84% Cardiovascular disease-0.61% Allergies-2.45%
Percentage of children who were hospitalized	YES – 13,9 %
Reasons for hospitalization	Cough-36.4% Diarrhea, vomiting-27.2% Other -36.4%
Percentage of children who have had a surgery	YES – 4,91 %
Sleeping disorders	Trouble to goto bed and fall asleep-3.07% Wakes up often -8.59% Speaks during sleep-3.07% Sleep walking-2.45% Nightmares-0.61% Other -0.61%
Flatfeet	7,4%
Percentage of children with spine deformity	1,2%
Percentage of children with visual impairment	1,2%
Percentage of children with speech difficulties	1,8%
Percentage of children who use computer	41,2%
Time spent in front of computer daily	1-2 hours a day - 80,3% >2 hours a day- 19,7%
Percentage of children who regularly visit dentist	29,2%
Percentage of children who maintain oral hygiene	54,6%

**Health profile of the border region according to the characteristics of adult family members**

Identified features of adults – 336 adults	
Education	Illiterate-1.2 % Without formal education -9.8%
Percentage of people with diagnosed conditions	Increased blood pressure-11.27% Diabetes-2.08% Myocardial infarction-0.3% Other heart disease-3.86% Stroke-2.74% Chronic bronchitis-0.3% Kidney diseases-1.48% Rheumatic disease-4.75% Anemia-1.19% Other -1.78%
Percentage of people with elevated cholesterol	4,45 %
Percentage of overweight people	16%
Percentage of people with a face, hands or feet deformity	1,48 %
Percentage of people who have requested psychiatric help	4,15 %
Diagnosed psychiatric disorders (percentage of people who requested psychiatric help)	Depression-71.4% Anxiety-21.4% Difficulties in concentration and memory-7.14%
Percentage of people who take medication for psychological problems	5,04 %
Percentage of people who abuse alcohol	1,19 %
Percentage of violence between family members	1,18 %
Percentage of families seeking help for domestic violence	0,9 %
Type of family violence	physical – 0,59 %
Percentage of women who have never visited a gynecologist for preventive examination	28,6 %
Percentage of women who have had abortion	14,72 %
Percent of families who have not been visited in their home by a nurse after giving birth	68,09 %

**CONCLUSION AND RECOMMENDATIONS**

The mapping study shows that healthcare, prevention and health education are not on a satisfactory level in rural border region, because of the distance of healthcare facilities and lack of preventive nursing care for this population.

The results indicate that the general health of the population with young children is generally good, with low prevalence of acute and chronic diseases. What is troubling is the insufficient utilization of preventive programs such as vaccination programs, gynecological examinations, nursing services and preventive dental services.

We have recorded a worrying percentage of illiteracy among the young adult population. Also attitudes towards domestic violence are uncanny and indicate a need for more extensive work on changing prejudices. The percentage of deliveries by caesarean section is high.

The following recommendations to improve health of families with small children emerged from the analysis of the collected data on the health status of rural population:

- Conducting of educational programs regarding the nutrition in infant and early childhood period.
- Implementation of educational programs for prevention of common diseases in children.
- Conducting educational programs on domestic violence in order to encourage rural population to report domestic violence and reduce tolerance towards domestic violence.
- Implementation of educational programs about the importance of vaccination and to encourage healthy psychosocial and psychomotor development.
- Improving prenatal care for mothers and children.
- Enhancing employment policy of existing preventive healthcare services and establishment of postnatal care by nurses in rural areas.
- Implementation of educational programs to improve dental health.
- Joint multi institutional approach towards the improvement of sanitary infrastructure of homes in rural areas.

Further project activities include broader preventive examinations of children who are part of the fixed and mobile centers for early childhood development and education and conducting healthcare educational protocols in several areas that are considered to be priority:

- Home care of children with common cold and cough
- Enhancement of psychomotor and psychosocial development of children 0-6 years old
- Prevention and care of spine deformities
- Home care and nutrition of children with diarrhea
- Contemporary views on nutrition and breastfeeding of children

Besides the primary objective of the mapping study (data collection), this activity had indirect benefits. It helped in strengthening the "visibility" of project activities financed by EU grants for cross-border cooperation. The local population had an opportunity to talk to doctors at home and to get information about the benefits of this program in order to improve the quality of the life of their children and family, the community as a whole, and the rural border region in general.

The whole process has benefited for the strengthening of the partnership of the organizations involved in cross-border cooperation through exchanging experiences, joint planning and implementation of mutual programs and activities, which indirectly has positive effect over the strengthening of the capacities of partner organizations, institutional capacities for working in this segment from the both sides of the border as well as bigger social participation of the population that lives in this area. All of this is an important pre-condition for successful collaboration in mutual defining priorities that concern the everyday living, in creating of mutual strategic frameworks and implementation of project activities, as well as maintaining such cooperation in the future after the implementation of all activities defined in the action plan. The strengthened cooperation and partnership will help in setting up strong foundation in future sustainability of activities.