



## FEMALE POPULATION IN REPRODUCTIVE PERIOD AWARENESS ABOUT PRESENCE AND HARMFUL INFLUENCE OF LEAD IN KOSOVSKA MITROVICA

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### Key word:

female population in reproductive period, lead presence in the environment, awareness.

### Ključne riječi:

zenska populacija u reproduktivnom periodu, prisustvo olova u životnoj sredini, informisanost

### SYNOPSIS

In this paper the results of female population awareness about presence of the lead and other heavy metals in the environment and their influence on the population health are presented. The research has been conducted in the area of the north part of Kosovska Mitrovica town. Since 2000 there are no primary emissions of polluting substances in the environment, but there are remaining of these materials from past as well as secondary pollution. The object of the investigation was female part of the population in reproductive period 19-39 age using the "Cluster" methodology of the sampling the groups. The "group" was randomly selected and was consisted of 8 women in reproductive period. This research has shown that there is lack of information about presence, harmful influence as such on the human organism as well as preventive measures that could be taken on the family level.

### SINOPSIS

U radu se iznose rezultati istraživanja svesnosti zenske populacije o prisustvu olova i drugih teskih metala u životnoj sredini i njegovom stetnom uticaju na zdravlje populacije. Istraživanje je sprovedeno na području severnog dela grada Kosovske Mitrovice, gde od 2000 godine ne postoje emisije stetnih materija u okolinu, ali postoji opterećenje životne sredine iz prošlosti, kao i prisutno sekundarno zagađenje. Istraživanje je sprovedeno na ženskoj populaciji u reproduktivnom periodu starosti od 19 do 39 godina, po metodi "Klaster" tehnike uzorkovanja grupa. "Grupa" je nasumično odabrana i čini je grupa od 8 žena u reproduktivnom periodu. Pokazalo se da postoji neobavestenost o prisustvu, o samom toksičnom delovanju olova na ljudski organizam, kao i o preventivnim merama koje je moguće sprovesti na nivou porodice.

## INTRODUCTION

Protection of the environment embraces wide spectra of the scientific, economic, health-protective, technological-technical systems, but also educational measures in the order to protect and preserve it from pollution, damaging and destruction.

Now day's generations should provide high quality environment for themselves, but also are obliged to keep it for future generations in order to as less as possible burden with polluting materials. To achieve this, the education of the population is necessary, and especially population living in the settlements and regions where destruction of the environment exists, and where the consequences on the human health are obvious.

In cooperation with World Health Organization (WHO) and Institute for Public Health Kosovska Mitrovica, we have conducted research on 153 in the age from 19 to 39 aiming to investigate their level of knowledge about presence, negative influence, possible sources and pathways of the heavy metal, lead in the first place into organisms.

## SUBJECT AND METHOD OF REASERCH

As the subject of this scientific paper the sample of 153 women in reproductive period in the age from 19-39 years was used in the territory of the north part of Kosovska Mitrovica.

Probation Questioner was created with 14 different questions, including elementary data about women, level of education, matrimonial status, number of the children, etc. Main questions related to our investigation were about awareness of this population about presence of the lead in the environment, the sources of the information received, and pathways of the lead in the organism, its harmful influence as well as measures that can be taken by women in order to diminish risk in their own household.

Probation Questioner was tested on the familiar persons, suggestions on Questioner was accepted, and final version of Questioner was made.

The survey was conducted using "Cluster" methodology of the sampling the groups. "Group" was randomly chosen and was made of 8 women in reproductive period.

As final, the statistic work was made, where the results were presented in percentages.

## RESULTS WITH DISCUSSION

From the total number of surveyed women 35 of them have had portioned knowledge of harmful lead influence. The biggest number of the surveyed women, 116 of them had opinion that the problem of the lead in the environment was eliminated in 2000, when almost all of Trepca sections stopped their activities. This result directed

that the awareness of the population, including female population in reproductive period was very low about presence and harmful influence of the heavy metals and lead on the health status of the population. Systematic education has to play important role to resolve problems of prevention and health protection of the population.

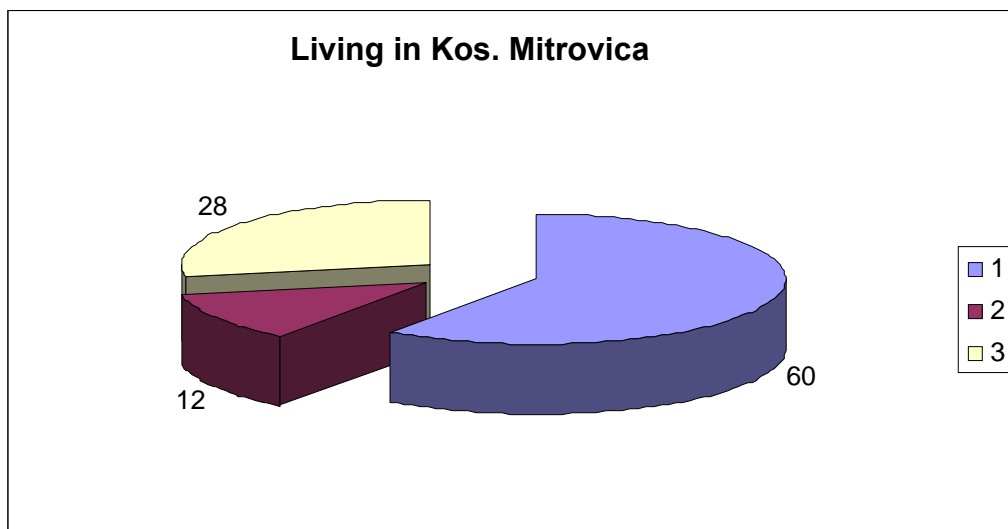
**Table 1. Awareness of the women about harmful influence and sources of the pollution**

Total number of surveyed	153
Portionally aware of Pb harmfulness	35
Aware of all pollution sources	2
Had opinion that Pb problem eliminated	116

**Results of the field study**

Female population was surveyed that was born or live in Kosovska Mitrovica for many years. From the total number of the women (picture1):

- 60% was born or live in Kosovska Mitrovica longer than 20 years
- 12% live in Kosovska Mitrovica less than 5 years
- 28% live in Kosovska Mitrovica between 5 and 20 years



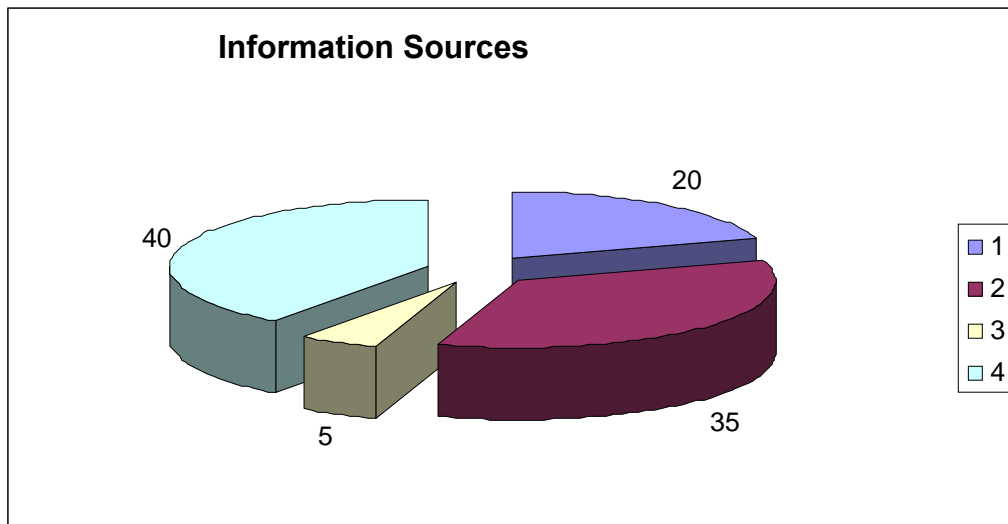
Picture 1. Population born in Kos. Mitrovica

**SOURCES OF THE INFORMATION TO THE FEMALE POPULATION**

On the question “Where they have heard about pollution and harmful influence of the lead”, the answers were as follow:

- 20% women stated that they got informed in the school,
- 35% women stated that they got informed in the family,
- 5% women stated that they got informed from Trepca workers,

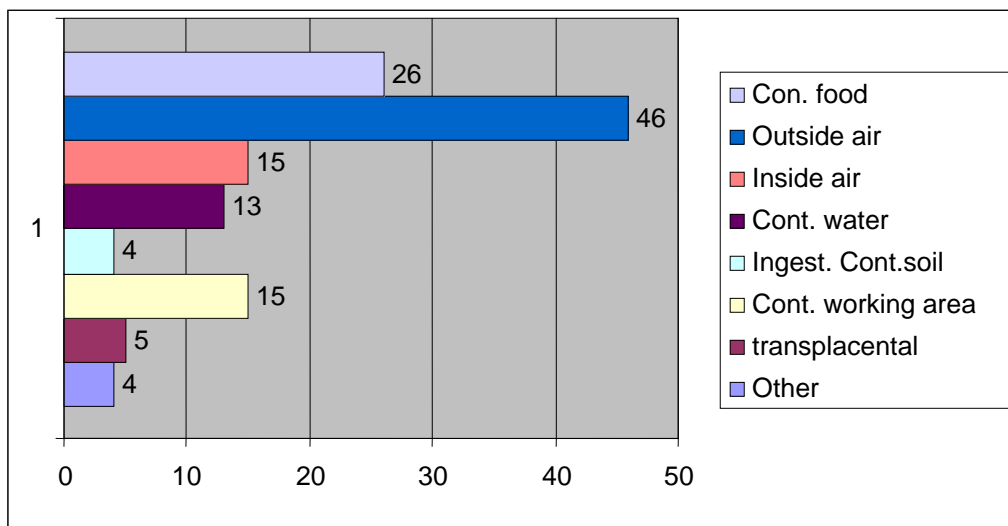
-40% women stated that they had different sources of the information (medical workers, medias...), (picture 2)



Picture 2. Information sources in percentage

### KNOWLEDGE OF THE EXPOSURE PATHWAYS

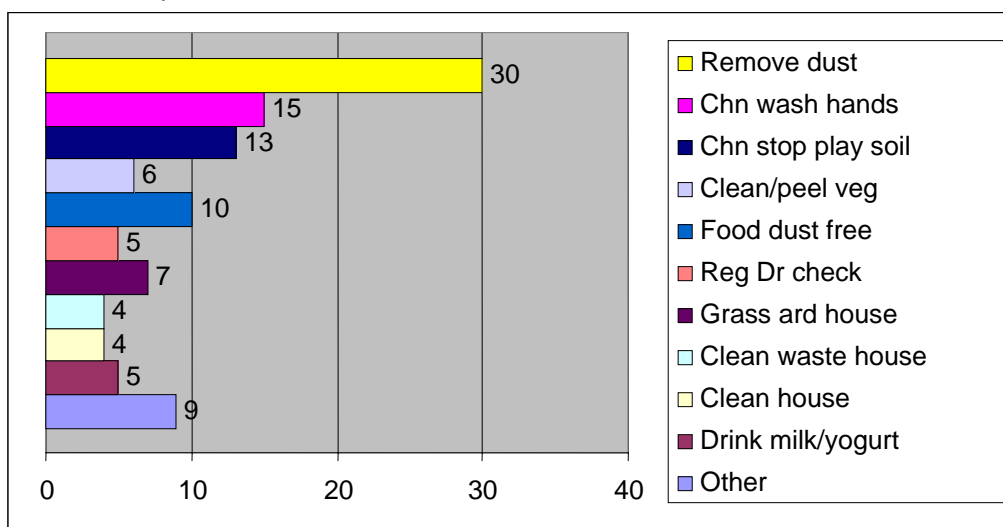
It is interesting that 46% of the women gave the answer that the main pathway of lead exposure was through polluted air. 20% stated that the main exposure pathway was through contaminated food consumption, while only 5% knew about transplacental barrier pathway.



Picture 3. Knowledge of the exposure pathways

### KNOWLEDGE ABOUT ACTIVITIES TO DIMINISH RISKS

The biggest percent of the surveyed women, 30% knew that one of the ways to diminish risk from lead presence in the environment was through regularly dust removal from the houses. There is relative awareness that children play in the dust containing lead is high risk activity. Possible way to diminish risk by appropriate food consumption in everyday diet was mostly unknown. Only 5% of the women knew that milk consumption can diminish risks.



Picture 4. Knowledge about activities to diminish risks in percentage

Roma women from camp “Cesmin Lug” in north Part of Kosovska Mitrovica were also included in this research. This camp for Internally Displaced Persons is located just beside the Trepca deposits. From 35 women in the age from 18-39 years, only two of them had very limited knowledge about harmful influence of the lead.

Lack of information on presence in the environment and harmful effects of the lead on the human body had led to the situation that Roma inhabited at this camp started to smelt lead secondary raw in improvisational equipment. Doing so, they increased possibilities to get lead into body. This is obvious to the children that play in the yards that are not covered with grass or concrete. The investigation of the lead blood levels with Roma children has shown values even over 60 µg/dl (MAC 10µg/dl SZO).

### CONCLUSION

The aim of this work was to show what the level of ecological education is and what is the level of ecological awareness with the population in Kosovska Mitrovica. It

is very possible that the situation is not much better in other regions where the similar problem as in Kosovska Mitrovica exists, or at least it is not satisfactory.

The only remedy for this problem is education of all population to the level of knowledge that is necessary to live with the protection of the environment as everyday practice.

Existence of the juridical regulations can give significant contribution, but if there is a lack of education through formal ways of education of the population, future experts and educational workers, they will not be possible to make influence on the environmental protection and health status of the population.

In this paper work we want to suggest that the education in environmental problems should be incorporated in the curriculum from elementary schools to the university level.

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Lead Poisoning Prevention Curriculum for Pre-School Children and their Families:  
<http://www.health.state.ny.us/nysdon/enviro/lead.pdf>