

HEALTH-RELATED LIVING CONDITIONS IN PANEL BLOCK BUILDINGS IN SLOVAK REPUBLIC PROJECT WHO

K.SLOTOVA, X. BONNEFOY, M.BRAUBACH

State Health Institute, Cesta k nemocnici 1, 975 56 Banska Bystrica, Slovak Republic
WHO Regional Office for Europe, Scherfigsvej 8, Copenhagen, Denmark

ABSTRACT

For many years, the housing environment has been acknowledged as one of the main settings that affects human health-due to the amount of time that people spend in their homes, as well as to the number of aspects that can have an impact on health. Living and housing conditions are the basis for many aspects that affect residential health: indoor air quality, accidents, noise, humidity, low temperature, asbestos, VOC and overcrowding are a few of the possible health threats to be found in dwellings.

The purpose of World health organisation project on health-related living conditions in panel block buildings was to gain knowledge about living conditions and their health implications, focusing on block buildings and about the main health issues of these living conditions and potential priorities for intervention

The study was co-ordinated by WHO and was undertaken in Lithuania, Slovakia and Germany. The survey in Slovakia took place in the city quarter Petralka in Bratislava. The results show that the living conditions do have an impact on health. This was especially obvious for priority problems such as heating, noise, indoor air quality or pets, where several significant correlations were found. Recommendations were made for the improvement of housing and health policies, and for initiating low-cost renewal project with broad participation.

INTRODUCTION

The quality of housing conditions plays a decisive role in the health status of the residents, because many health problems are either directly (e.g. accidents) or indirectly (e.g. inefficient insulation) related to the building itself, the construction materials that were used, the equipment and the size/structure of the individual dwellings.

In Central and Eastern European Countries for example, around 60% of the housing stock are made up of panel buildings that have been constructed in the 60s and 70s in order to supply housing in rapidly growing cities. As these buildings have been erected in great haste, prefabricated elements have been used. These buildings types now pose major problems to many countries-also outside the CEE region-as they have not been well enough maintained and therefore now feature rather poor living conditions. As a consequence, this urban decay also contains a so far unevaluated health risk.

Czechoslovak Republic underwent fundamental demographic and social changes in 1970s-1980s years as a result of rural-urban drift. More and more people were moving from rural to urban societies built upon industrial and commercial activities. The accompanying increase in the urban populations seriously affected housing conditions in our country.

The "modern" residential areas resulted from cheap, quickly built, high-density, system-package developments erected in 1950- 1970 to "solve" the housing problems. "Modern slum" consist mostly of slab-block or high-rise buildings frequently overlooking each other.

But these buildings were a symbol of the comfortable life for people moving from rural areas. There were no problems with environmental facilities: drinking water supply, heating supply, sewage and waste disposal, electricity and gas services. People started to recognise their real housing conditions later. Except troubles with community facilities- transport and communication system, shopping facilities, schools, kindergartens, hospitals, health centres, recreational, play and sport facilities, cultural and religious facilities, which were (most of them) step by step provided during 5-10 years , Many of the block building designs are inappropriate to the climatic and socio-economic conditions:

- poor insulation
- inappropriate heating methods
- inadequately protected against noise
- a poor state of repairs
- unsuitable building materials and design
- limited resources available for financing housing activities
- lack of amenities in the suburbs

A World Health Organization prepared and coordinated project on health-related living conditions in panel block buildings because of known different priorities of engineers and economics versus health authorities, because of only scare data on housing and health and poor surveillance system. The WHO case study was undertaken in three countries: Lithuania, Slovakia and Germany. Survey in Slovakia took place in the city quarter Petržalka in Bratislava.

Ministry of Health of Slovakia was responsible for realization of the study. Partners invited and cooperated in the study were: Ministry of construction and regional development, Institute of Housing, Bratislava, Municipalities of Petržalka, Building companies in Petržalka.

OBJECTIVE

The purpose of this project was at scientific level to gain knowledge about living conditions and their health implications, focusing on block buildings and about main health issues of these living conditions. At strategically level to identify potential measures and remedies and to identify recommendations for integrating health aspects into projects of building renovation.

To attain this goal, two basic tasks were realised:

- Risk identification

the sources of health risk in the residential environment were identified by reviewing the available and accessible information about the housing and living conditions and their health effects, using scientific literature and statistical databases in the countries and on European level. By an analysis of the existing data in three study countries, a screening of the main housing condition problems were approached when undertaking the field work was performed.

- Risk assessment

based on the findings of the residential data, housing survey were held in three cities of each case country . This survey, supported by interviews, can be seen as a scoping of the current situation.

MATERIALS AND METHODS

The project was based on the literature review of housing and health, of statistical data and of panel-block houses, and the results of this review were used for the development of a survey.

Name-less questionnaires and inspection documents were drawn up, and validated with the co-operation of experts and in a piloting phase.

Petrzalka consist of four living zones: Haje, Luky, Dvory, Centrum. Zone Haje has been selected as study area.

Zone Haje consists of the three sets of the flats: Zrkadlovy Haj 60396 flats

Stary Haj 6 350 flats

Ovsiste 5 090 flats

Two basic types of the construction building systems with small variant adaptations were used in the selected area Haje:

- *ZTB construction system*
Years of realisation: 1973-1981
Number of floors: 4-13 floors
36,6% from the total number of the flats
- *NKS construction system*
Years of realization: 1975-1980
Number of floors: 4-13
63,4% from the total number of flats

The dwelling selection methodology:

1. Area Petrzalka – Haje was divided into four approximately equal parts
2. To receive information about quality of housing from 100 flats, we decided to select 100% of the flats more
3. We calculated the amount of the buildings according to numbers of floors and construction systems in %
4. A random pre-selection of the flats has been made in order to be % of the involved different kind of building in the whole area and in the sample of the selected dwelling was apoximately the same. Percentage of the selected NKS construction system was 52,5% and ZTB construction system 47,5%
5. The ultimate requirement of the WHO to in advance which flat will be visited was the most difficult part of the survey. Housing agencies provided us with 50% of the random selected households. The rest of flats were selected by surveyors in prior selected buildings, floors and numbers of the flats.

To inform people and make them interested and co-operative were used local TV, local newspapers, radio and local housing agencies. Translated information letter about the study from WHO has been put on the entrance door of each selected building.

The surveyors have been selected from State Health Institute Bratislava-hygienic specialists.

For statistical analysis of the data was used a multivariate logistic model to identify the major correlation's between individual health symptoms and factors such as housing conditions or age, gender and income. based on these general parameters that were applicable in all countries, it could be possible to develop indicators.

RESULTS AND DISCUSSION

In total, 74 flats were inspected and the households interviewed about housing conditions, while 210 individual health questionnaires were filled out by the inhabitants.

Based on the analysed results, the following housing parameters are proposed as the major factor that need to be improved by modernisation or renovation measures in order to increase the health-related quality of life in prefabricated panel block buildings.

Heating systems.

Dissatisfaction with indoor temperatures occurred in both construction systems. The main reason was that the heating cannot be regulated. Problems with temperature in winter season have 39% of households in NKS and 42% of households in ZTB construction system. In summer season are 65% of households in NKS and 50% of households in ZTB with problems..

Indoor air quality conditions.

The ventilation system efficiency is a major cause for problems with air quality. Problems with air quality reported 56% of households in NKS and 32% of households in ZTB construction system. Presence of visual mould growth in flat reported 26% of households in NKS and 8% of households in ZTB construction system. It is very likely that the modernization of the system improves the satisfaction with indoor air. Disrepair of windows/frames reported in NKS 65% and in ZTB 28% of households. Ratio of not tight windows reported in NKS 74% and in ZTB 57% of households. Improvement window tightness can also increase the satisfaction with indoor air, as it offers the opportunity to regulate air exchange according to the individual perception.

Insulation quality.

The insulation of flats influence the temperature and noise exposure levels. According our results 92% of households complained about too high temperatures in summer season. Problems with noise level reported in NKS 65% and in ZTB 49% of households. Therefore the insulation of flats must be improved both for energy and both internal and external noise exposure reasons.

Flat size and floor space.

For many households, the provided floor space is inadequate. Unsatisfaction with flat size reported in NKS 65% and in ZTB 30% of inhabitants. The prefabricated panel block housing stock lacks architectural flexibility and is mostly limited to flats sizes under 80m². Building renovation and prioritisation of flat size can result in increased flat size variety and offer adequate living conditions also to larger households.

Pets and infestations.

It is problem in many block buildings in Slovak Republic. In our study are 73% of households in NKS and 57% of households in ZTB with current health problems.

Maintenance of surrounding and common spaces.

60%-70% of inhabitants are not satisfied with surrounding of the buildings. The main reason is insufficient maintenance, lack of green areas, unsuitable green, lack of places for sport, parks and presence of dirty areas. There were found differences in the quality of maintenance of common spaces between very high and lower buildings. The situation is better in lower buildings, because of better communication between people.

Significant correlation's between house conditions and health effect of the inhabitants were found between:

- problems with dampness, humidity or condensation and chronic disease or long-term health problems: asthma, allergies, respiratory symptoms, coughing
- presence of visual mould growth and suffering from asthma and respiratory diseases
- problems with air quality in the flats and occurrence of asthma or allergies, cold or throat illness in the winter time
- sleeping in the room where people have smoked and general assessment of health status as fair or poor
- residents who live in a flat where installed heating system cannot be adjusted by thermostats, assess their general health status worse than those who use heating system with thermostat

- temperature problems in winter and occurrence of health effects related to the flat, suffering from asthma and suffering from respiratory diseases
- people who evaluate satisfaction with the size of sleeping room as fair, poor or good tend to assess their general health status worse

Study results from all involved countries can be considered as opportunity for the development of housing and health indicators. It is required that suggested main indicators would need to be investigated more closely, as a bigger sample and a more focused questionnaire would be needed for a realistic indicators development. Furthermore, larger studies would require the constant co-operation of health experts, epidemiologists and statisticians.

CONCLUSIONS AND RECOMMENDATIONS

Results, new knowledge's and experiences from the study were evaluated at the "WHO Symposium on Housing and Health in Europe designing an international agenda", which was held in Bonn, 06-08 June 2001. The meeting made the following recommendations:

Recommendations to countries

- Incorporate the housing and health dimension into the national environmental health action plans (NEHAPs) based on the national surveys, and include all the necessary specific policy elements to obtain a comprehensive housing and health policy.
- National conferences on housing and health issues should be organised and held
- It is recommended that countries use the findings and present them to all partners (NGOs, Local authorities, media, etc.)
- Countries should draw the conclusions from the results of the WHO survey in Lithuania, Slovakia and Germany and join forces with local authorities and group of owners to remedy to the identified defects and ensure proper follow-up.
- The housing and health dimension should be incorporated into the local environmental health action plans (NEHAPs).
- Undertake case study on Benefit-cost of select housing and health issues (e.g. Hungary, UK or Bratislava, Schwedt, Vilnius)

Recommendations to WHO

- WHO should develop all necessary background materials and guidelines to allow countries to develop national health-related housing monitoring programmes on the basis of the survey results and indicators identified
- WHO should develop a report on the findings of the current survey and publish it
- WHO should ensure that the data gathered be exploited fully. In particular, it should take measures to allow local authorities where surveys have been run to undertake the necessary follow-up
- Collect available evidence in a systematic way on the linkages between housing improvements and health gains
- WHO should encourage the development of a more extensive survey based on the results of the existing one to draw more statistically significant links between housing and health. The support of Member States should be sought in this respect
- Based on this survey, WHO should develop tool to allow local authorities to self-assess the existing situation in a neighbourhood or at national level
- WHO is requested to develop technical information documents aimed at local level politicians and technical staff. Topics such as „housing and health“, „housing and

security“, „technical aspects of a healthy homes“, „hygiene and housing“, „energy and housing“, „lighting and housing“ should be covered

Recommendations to others (local authorities, IGOs, IFIs, other sectors, etc.)

- Develop financial mechanisms to support the renovation of panel block houses. Ensure follow-up of the work already done and incorporate housing and health issues into other international programmes and projects with the facilitation and help of WHO.
- Create an intersectoral institutional framework with clear distribution of responsibility and authority
- Develop mechanisms that encourage municipalities to participate in maintenance and upgrading of the existing stock. In this respect, Member States could seek the help and support of IGOs and IFIs
- Public participation in planning and housing issues should be encouraged through information and communication. Residents should be given access to advice and the possibility to express their opinions/wishes
- Following privatisation, there is a need to communicate with many individuals (e.g. landlords, residents, etc.) and adequate mechanisms should be established to fulfil this need
- Pilot projects should be carried out, including low-cost renewal projects. Residents should contribute to these costs, especially in case of energy-saving improvements. In this respects, Member States could seek the help and support of IGOs and IFIs
- Intensify co-operation with NGOs and empower them to work on the subject