DISPARITIES IN THE ACCESS TO PRIMARY HEALTHCARE IN RURAL AREAS FROM THE COUNTY OF IASI - ROMANIA

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DISPARITIES IN THE ACCESS TO PRIMARY HEALTHCARE IN RURAL AREAS FROM THE COUNTY OF IASI - ROMANIA (Abstract). \textbf{Aim:} To identify the factors that may conduct to various forms of social exclusion of the population from the primary healthcare and to analyze health disparities as population-specific differences in the access to primary healthcare in rural compared to urban residence areas from Iasi, the second biggest county, situated in the North-East region of Romania. \textbf{Materials and methods:} This research is a type of inquiry-based opinion survey of the access to primary healthcare in rural compared to urban areas of the county of Iasi. Data were collected by face-to-face interviews. There were taken into account the socioeconomic status (education level in the adult population, employment status, family income, household size) and two temporal variables (the interval of time spent to arrive at the primary healthcare office as a marker for the geographical access and the waiting time for a consultation). The study group consisted of two samples, from rural and urban area, each of 150 patients, all ages, randomly selected, who were waiting at the family doctor's practice. \textbf{Results:} The study has identified disparities related to a poor economic status assessed through the employed status (“not working” 15% in urban and of 20% in rural). The income calculated per member of family and divided in terciles has recorded significant differences for “high” (36.7% urban and 14.7% rural) and “low”, respectively (14.6% urban and 56.6% rural). High household size with more than five members represented 22.6% of the total subjects in rural and 15.3% in urban areas. The assessment of the education level in the adult population (>18 years) revealed that in the rural areas more than a half (56%) of the sample is placed in the category primary and secondary incomplete, whereas the value for secondary complete and postsecondary was 37.3%. The proportion of respondents in the urban areas who have post-secondary education is five times higher than those in rural areas (15.4% vs. 2.7%). The reduced geographical access assessed as the interval of time spent to arrive at the primary healthcare office revealed, on average, 25 minutes in urban versus 75 minutes in rural areas. \textbf{Conclusions:} The research outcomes highlight the fact that the population living in rural communities from the county of Iasi, are disadvantaged in accessing the primary health services, with negative consequences on the health status. \textbf{Keywords:} ACCESSIBILITY, PRIMARY HEALTHCARE, RURAL, URBAN
A complete and actual definition of the accessibility refers to “the possibility of the user to obtain the needed health care or the health service in the right place and the right time, according to the perceived needs, and assumes the lack of geographical, economic, financial, social, cultural, organizational or language obstacles” (1).

In the Member States of the European Union, the health services access is legislatively stipulated and guaranteed in the EU Charter of Fundamental Rights, Article 33: “Everyone has the right of access to preventive health care and the right to benefit from medical treatment” (2).

The fair and as complete as possible access to a basic package of services is an essential criterion for a well-organized and operating at optimal parameters health system, along with other objectives such as: general coverage, continuity of health care, patient’s ability to choose the provider and costs of medical care (3).

Health disparities or healthcare inequalities refer to gaps in the quality of health and health care across various population groups (4).

The improvement of the access to health services represents the first priority objective of the policy adopted by the Ministry of Health from Romania (5). A special concern is focused on primary care because they act as a first point of consultation for all patients within the health care system.

The aim of this study is to analyze health disparities as population-specific differences in the access to primary healthcare and to identify the main perceived barriers to health care access in rural compared to urban areas from Iasi, the second biggest county, situated in the North – East region of Romania.

MATERIALS AND METHODS

This study research represents an inquiry-based descriptive analysis of the degree of access to primary healthcare in rural compared to urban areas of the county of Iasi. Data on socioeconomic variables were collected by face-to-face interviews.

There were taken into account the socioeconomic status (education level in the adult population, employment status, family income, household size) and two temporal variables (the interval of time spent to arrive at the primary healthcare office as a marker for the geographical access and the waiting time for a consultation).

The study group consisted of two samples, from rural and urban area, each of 150 patients, all ages, randomly selected, who were waiting at the family doctor’s office. The location was the city of Iași and five rural communities inside the county of Iasi.

The database and statistics were performed in Epi Info™ 7.

RESULTS

The median age was 39 years, with limits ranging between <1 year and 87 years. Distribution by age groups is shown in table I.

<table>
<thead>
<tr>
<th>Age group (years)</th>
<th>Urban No.</th>
<th>%</th>
<th>Rural No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 10</td>
<td>14</td>
<td>9.3</td>
<td>10</td>
</tr>
<tr>
<td>10-19</td>
<td>15</td>
<td>10</td>
<td>26</td>
</tr>
<tr>
<td>20-29</td>
<td>22</td>
<td>14.7</td>
<td>16</td>
</tr>
<tr>
<td>30-39</td>
<td>28</td>
<td>18.7</td>
<td>27</td>
</tr>
<tr>
<td>40-49</td>
<td>33</td>
<td>22</td>
<td>30</td>
</tr>
<tr>
<td>50-59</td>
<td>18</td>
<td>12</td>
<td>14</td>
</tr>
<tr>
<td>60-69</td>
<td>9</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>70-79</td>
<td>8</td>
<td>5.3</td>
<td>12</td>
</tr>
<tr>
<td>&gt;80</td>
<td>3</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>150</strong></td>
<td><strong>100.0</strong></td>
<td><strong>150</strong></td>
</tr>
</tbody>
</table>

TABLE I

Distribution by age groups and residence
Of the total sample, 24% of the subjects living in rural and 19.3% of those from urban areas are children under 20 years of age.

Gender distribution was similar in urban (male 43.6%; female 56.4%) and rural areas (male 44.7%; female 55.3%). The report male/female was approximately 5/6 in both residence areas.

The assessment of the education level in the adult population (>18 years) revealed that a proportion of 5.3% of the rural patients and 3.3% of the urban patients reported only an elementary school education (tab. II).

The socioeconomic status of the respondents is an important variable associated with the degree of access to healthcare.

<table>
<thead>
<tr>
<th>Education level</th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Elementary</td>
<td>5</td>
<td>3.3</td>
</tr>
<tr>
<td>Secondary incomplete</td>
<td>51</td>
<td>34</td>
</tr>
<tr>
<td>Vocational, complementary or apprentice level</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>Secondary complete</td>
<td>56</td>
<td>37.3</td>
</tr>
<tr>
<td>Post Secondary</td>
<td>23</td>
<td>15.4</td>
</tr>
<tr>
<td>Total</td>
<td>150</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The employment status was assessed as working or not working (unemployed or pensioner). Comparing the distribution in the two areas of residence, we found a proportion of 15% for “not working” in urban (1% unemployed; 14% pensioner) and of 20% in rural (3% unemployed; 17% pensioner).

The income calculated per member of family was divided into terciles in order to have three categories for the socioeconomic variable:
- high (36.7% urban and 14.7% rural);
- medium (48.7% and 28.7%, respectively);
- low (14.6% and 56.6%, respectively).

The household size expressed as the number of persons that share the same dwelling, as well as the expenses related to it, represented another variable taken into account in assessing the accessibility to primary healthcare, particularly from financial point of view. A household may be made up of one person or a group of persons.

The average number was of 4.2 persons per urban household and 4.4 in rural, respectively.

Families with more than five members represented 22.6% of the total subjects in rural and 15.3% in urban areas (tab. III).

The interval of time spent to arrive at the primary healthcare offices was, on average, of 25 minutes in urban and of 75 minutes in rural areas.

The access within a city is easier, thus a proportion of 38.6% of the investigated patients answered they need less than 30 minutes to arrive at their family doctor (fig. 1).

The average time patients spent waiting to see their health provider varied from less than 15 minutes to more than 60 minutes. Patients sit a long time in the waiting room.
either in a rural or an urban practice (fig. 2). Short waiting times (< 15 minutes) have been recorded in less than 10% (7.2% urban, 7.8% rural).

**TABLE III**

**Distribution by household size and residence**

<table>
<thead>
<tr>
<th>Persons (no.)</th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>1</td>
<td>5</td>
<td>3.4</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td>13.3</td>
</tr>
<tr>
<td>3</td>
<td>23</td>
<td>15.3</td>
</tr>
<tr>
<td>4</td>
<td>46</td>
<td>30.7</td>
</tr>
<tr>
<td>5</td>
<td>33</td>
<td>22</td>
</tr>
<tr>
<td>6</td>
<td>10</td>
<td>6.7</td>
</tr>
<tr>
<td>&gt;6</td>
<td>13</td>
<td>8.6</td>
</tr>
<tr>
<td>Total</td>
<td>150</td>
<td>100</td>
</tr>
</tbody>
</table>

The data from the table above is visualized in the following graphs:

**Travel Time (minutes)**

- **Urban**
  - > 60: 27.7%
  - [30 - 60]: 33.7%
  - < 30: 11.7%
- **Rural**
  - > 60: 51.4%
  - [30 - 60]: 36.9%
  - < 30: 38.6%

**Fig. 1.** Interval of time to arrive at the family doctor’s office

**Wait Time (minutes)**

- **Urban**
  - > 60: 31.1%
  - [30 - 60]: 25.2%
  - [15 - 30]: 7.2%
  - < 15: 7.8%
- **Rural**
  - > 60: 36.2%
  - [30 - 60]: 35.9%
  - [15 - 30]: 29.5%
  - < 15: 8.8%

**Fig. 2.** Waiting time for a consultation at the family doctor’s office
DISCUSSION

The comparison of the age group distribution between the two areas of residence highlights that the population who access the healthcare in rural areas is somewhat younger in rural, where one of four patients is under 20 years, compared with urban, where one of five is under 20 years, but neither difference is statistically significant. The proportion of the elderly (>60 years) who needed a consultation to a family doctor office was higher in rural (18%), compared to urban areas (13.3%).

Gender distribution shows a higher addressability among female compared to male patients, for both residence areas, but without significant differences (p<0.05).

The assessment of the education level in the adult population (>18 years) revealed that in the rural areas more than a half (56%) of the sample is placed in the category primary and secondary incomplete, whereas the proportion for secondary complete and postsecondary was 37.3%.

The differences in education between the urban and rural areas are more obvious when it comes to post-secondary education; the proportion of respondents in the urban areas who have post-secondary education is five times higher than those in rural areas (15.4% vs. 2.7%). The respondents in urban areas, not surprisingly, have a higher level of education than respondents in rural areas.

Low-income families were four times numerous among rural patients, compared to those living in urban areas (56.6% vs. 14.6%), whereas high-income rural families represented one third of the corresponding value from urban (14.7% vs. 36.7%). These differences are statistical significant (p<0.01)

In the same time, the proportion of the unemployed and pensioners was higher (20%) among people living in rural communities, than the value recorded in the city of Iasi (15%).

These aspects should be taken into consideration in the evaluation of the accessibility, being well-known the fact that the degree of poverty of a population correlates directly with a poor economic status and inversely with the educational level, and that both influences the optimal access to the healthcare (6).

Households made up of a single person are twice frequent in rural compared to urban environment (8% and 3.4%, respectively), the difference being significant (p<0.01). One of five households in rural (22.6%) had six or more persons; the corresponding percentage found in urban areas was of 15.3%.

The access to medical care in rural areas can be limited due to the dispersion of the primary care practitioners. The spread of the human communities correlates with the distance between health care facilities and dwellings and, in consequence, 51.4% of the patients of villages travel more than one hour to meet their family physician. The average interval of time to arrive at the primary healthcare practice was three times higher in rural compared to urban residence areas (p<0.01).

Another variable analyzed in this research was the waiting time to see a physician. A long time is unpleasant because the patient is often anxious about the appointment, in pain, or worried (7). One of three patients in both residence areas was waiting on average an interval of 30-60 minutes.

More than a quarter of the subjects of the two studied samples complained about long waits of more than 60 minutes.

In case of patients who often have been
kept waiting a long time by their healthcare providers, there is the risk to postpone the consultation if it is not a life-threatening illness or a severe injury. For waiting time, no significant differences have been recorded between the studied residence areas. Long waiting time reduces the accessibility to healthcare and leads to dissatisfaction among patients.

CONCLUSIONS
The identified factors that may conduct to various forms of social exclusion of the population from the primary healthcare in rural compared to urban residence areas from the county of Iasi are:
- poor economic status assessed through direct variables (unemployed status, low family income, high household size with more than five members) and an indirect variable – the low level of education;
- reduced geographical access assessed as the interval of time spent to arrive at the primary healthcare office.

These disparities represent in the same time inequities in the population’s access to primary healthcare in rural environment.

The research outcomes highlight the fact that the population living in rural communities from the county of Iasi, are disadvantaged in accessing the primary health services, with negative consequences on the health status.

REFERENCES