QUALITY ASSESSMENT OF ANTE-NATAL CARE USING THE METHOD OF LOT QUALITY ASSURANCE SAMPLING

Sh. Sadafilak1, PhD; A. Gashtashi2, PhD; A. Nabim1, PhD

Key words: Ante-natal care, evaluation, quality assessment, lot quality assurance sampling

Abstract
To determine the coverage rate, timeliness and quality of ante-natal care in rural areas under the coverage of Health Houses in West Azerbaijan province, 30 Health Houses (HH) were randomly selected out of 731 HH in the province. In each HH, using the method of Lot Quality Assurance Sampling (LQAS) 28 women having recently born babies were selected.

Data were collected using check-list for facilities, and questionnaires and forms to be completed from the files by interview.

The study showed that the method of LQAS is quite effective for evaluation of this service at HH level. The weighted total coverage of ante-natal care was 46.2%. Quality of care was acceptable for 53.9% of mothers. The weighted average of time lines of care was 49.8%. Availability of facilities in delivery of this service was 100% showing there was no short coming in this respect.

Introduction
Maternal and child health programs are carried out to reduce mortality and morbidity due to various causes both in mothers and in children. One of these programs is ante-natal care the purpose of which is the reduction of maternal mortality, decreasing the complications of pregnancy and safe guard the health of mother for delivering a health baby.

Ante-natal care for each mother includes a number of health service activities as follows:
- Preparation of health file.

1. Provincial Health Center, West Azerbaijan, Iran
2. Dept. of Epidemiology and Biostatistics, School of Public Health and Institute of Health Research, Tehran University of Medical Sciences, P.O.Box 14155-63135, Tehran, Iran.
Quality assessment...

Houses (HHs).

As mentioned before, we used the method of LQAS which has the capacity of evaluating quantitative and qualitative aspects of services by selecting relatively small samples (9).

According to LQAS methods, the following steps were taken:
1- Identification of services to be evaluated,
2- Identification of all units in the province delivering these services,
3- Selection of a sample out of these units,
4- Identification of mothers who should have been users of these services (all mothers having children 10 to 36 months of age in rural areas under study),
5- Deciding on a triage system for classification of units into high, medium and low level of acceptability according to the rules of LQAS. For this purpose, we selected 80% for high acceptability and 50% below which the service is unacceptable. The figures were used for evaluation of coverage and sufficiency.

As regard quality of care, we selected the figures of 60% and 30% because otherwise, the majority of units would fall into groups with unacceptable level,
6- Lowest combined provider risk and consumer risk were identified and on this basis, according to LQAS tables, number of cases to be studied in each unit was identified as 28 (8).

To carry out this study, we selected 30 HHs out of 721 existing in the province. Check-lists and forms were prepared according to instruction manuals of the MOH. Interviewers were trained for collection of data under direct supervision of the senior author. Data analysis was carried out using EPI 6 and SPSS softwares.

Results

Table 1 shows the situation of coverage of ante-natal care services. The details of what is shown in the table are as follows:

1- Coverage of ante-natal care (life availability) weighted average was 89.7%.

In all 30 HHs this was above upper acceptability level (UAL);

2- provision of complete ante-natal care services (at least 9 out of 12 necessary
visits during pregnancy) weighted average for this item was 49.7%. Only 3 HHs reached UAL. Twenty HHs were at medium acceptability level (MAL) while 5 of them were below low acceptability level (LAL).

3- Knowledge of mothers about the intervals of the visits - Weighted average for this item was 89.2%. All 30 HHs were above UAL.

4- Knowledge of mothers about importance of ante-natal care - Weighted average for this item was 78.6%. Twenty seven HHs were at UAL, 2 at MAL and 1 at LAL.

5- Complete ante-natal care according to the recommendations of MOH - Weighted average for this item was only 49.5%. Although we decided to change upper level to 70% and lower level to 40%, only 3 HHs were at UAL, 22 at MAL and 5 at LAL.

Table 2, shows the quality of care in HHs under study the details of which are as follows:

1- Weighted average of sufficiency of supplies, equipment and facilities was 76.7%. Twenty three HHs were at UAL and 7 at MAL.

2- Quality of ante-natal care (according to the instructions of MOH). Weighted average for this was 63.9%, although the upper level was reduced to 56% and lower level to 30%.

Even with this change, only 13 HHs were at UAL, 5 at MAL and 12 at LAL. This means that in most HHs, the quality of ante-natal care does not reach the standards identified by MOH.

Discussion

One of the advantages of using LQAS for quantitative and qualitative evaluation of the services is that it enables us to identify the units in which the quality of care is unacceptable so that it is possible to concentrate the efforts to improve the situation in these units. The present study was the first application of this method in Iran. We were interested to know its feasibility for evaluation of services and the results were encouraging.

Although this study has shown that comparing with some other services such as immunization, the coverage, quality and acceptability of ante-natal care is at a lower level, but comparing it even with industrialized countries, the situation is almost the same. In the United States, only 56% of pregnant women are under coverage and only 32% of them receive all principal services (1,5). The situation is worse for women covered by private sector (5). In the same country, women who are not seen according to the schedule for ante-natal care i.e. with longer interval between visits, there is higher probability of higher pre-term birth and also low birth weight babies (7).

In Spain, three main factors in ante-natal care has been identified as weight of pregnant woman, visit in the first trimester and member of visits during pregnancy (2), it is also shown that ante-natal care program cannot cover all pregnant women because many of them are seen by private obstetricians although many aspects of ante-natal care are covered by them (2,3).

The more the visits of ante-natal care in low-income women, the lower is the rate of low birth weight in their newborn babies (4).

In conclusion, this study shows that pregnant women in rural areas need better ante-natal care. To correct the inadequacies, we have to concentrate our efforts in units with unacceptable performance with emphasis on the following items:

1- Provision of supplies and equipments needed for ante-natal care,

2- Continuing education and supervision of staff in charge of delivery of care,

3- Detailed investigation of situation in units with unacceptable level of care to find the specific reasons and to implement measures for their correction.

Acknowledgements

The authors have to thank all the staff of MCH Units and Health Houses of the provincial Health Center of west Azerbaijan for their collaboration in carrying out of this study.
### Table 1: Frequency distribution of the coverage of antenatal care in 30 Health Houses, west Azerbaijan 1995

<table>
<thead>
<tr>
<th>Service items</th>
<th>Coverage level</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Medium</td>
<td>Unacceptable</td>
<td></td>
</tr>
<tr>
<td>antenatal care for pregnant women</td>
<td>30</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Complete care of pregnant women</td>
<td>3</td>
<td>20</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Knowledge of women about the intervals of accessory visits</td>
<td>30</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Knowledge of women about the importance of antenatal care</td>
<td>27</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Timeliness of services delivered</td>
<td>3</td>
<td>22</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

### Table 2: Quality of antenatal care in 30 Health Houses in west Azerbaijan 1995

<table>
<thead>
<tr>
<th>Service items</th>
<th>Level of acceptability</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Medium</td>
<td>Unacceptable</td>
<td></td>
</tr>
<tr>
<td>Availability of supplies and equipments for the service</td>
<td>23</td>
<td>7</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Acceptability of quality of care</td>
<td>13</td>
<td>5</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

### Table 3: Overall evaluation of the quality of antenatal care in rural areas of west Azerbaijan 1995

<table>
<thead>
<tr>
<th>Service items</th>
<th>Acceptability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
</tr>
<tr>
<td>Availability of supplies and equipments for antenatal care</td>
<td>1</td>
</tr>
<tr>
<td>Quality of care</td>
<td>+</td>
</tr>
<tr>
<td>Pregnant mother's file</td>
<td>+</td>
</tr>
<tr>
<td>Complete care according to the number of recommended visits</td>
<td>+</td>
</tr>
<tr>
<td>Knowledge of mother about interval of visit</td>
<td>+</td>
</tr>
<tr>
<td>Knowledge of mothers about the importance of antenatal care</td>
<td>4</td>
</tr>
<tr>
<td>Timeliness of visits for antenatal care</td>
<td>+</td>
</tr>
</tbody>
</table>

### References


