Quality of Antenatal Care Services in Morocco: Case of the Women Delivering At Souissi Maternity

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Abstract

The main objective of this study was to identify and analyze the prevalence and associated risk factors of good monitoring of pregnancy, among pregnant women who delivered in Souissi maternity in Rabat, capital of Morocco. Among 230 pregnant women, a cross-sectional study was done from 2 to 14 April 2013. A structured questionnaire was used to collect data related to socio-demographic characteristics, medical, obstetric and dietary practices. Antenatal care Quality was determined by using new quality criteria (9 items). According to the study, 96.5% of women had at least one prenatal visit and were attended to by a trained health personnel, 63.5% attended at least four prenatal visits with trained staff, and 78.82% attended a prenatal visit in the first trimester. But, only 23% of women received good quality of antenatal care while nearly 3.5% did not receive any of the 9 quality criteria. The bivariate logistics regression analysis showed women’s decision making power (OR=3.82; 95% CI: 0.87-16.8); Women’s positive experience at first prenatal visit (OR=2.4; 95% CI: 0.95-6.02); satisfaction with quality of antenatal care services (OR=2.16; 95% CI: 0.98-4.76) and reason of first prenatal visit (OR=3.9; 95% CI: 1.88-8.11); were significant predictors associated with quality of antenatal care services. To improve the quality of prenatal care, we recommend that health professionals complete physical and diagnostic tests, and encourage pregnant women to start antenatal care early, have adequate number of visits and obtain quality antenatal care from trained health personnel.

Keywords: quality, criteria, antenatal care, monitoring, pregnancy, Morocco.
Introduction
The health problems encountered by pregnant women, in large part, may be either prevented, diagnosed or treated during prenatal consultations. World Health Organization recommends a minimum of 4 prenatal consultations during pregnancy, these visits provide essential services for pregnant women, including tetanus vaccination, diagnosis and management of infections, as well as essential information on the risks related to pregnancy and childbirth [1, 2]. In the developing countries, three-quarters of pregnant women attend at least one antenatal clinic visit with a qualified health personnel (3).

In Morocco. In 2011, only 77.1% (compared with 67.8% in 2004) of pregnant women received antenatal care (ANC) from a trained health personnel (a doctor, nurse or midwife) and 55.3% of (compared with 31% in 2004) women only making at least four antenatal care visits during the pregnancy, however, child and maternal mortality has dropped significantly over the last twenty years, from 76.1% in 1991 to 30.5% in 2011, and from 332 maternal deaths per 100,000 live births in 1992 to 112 deaths in 2010. [4]

Despite the efforts made by the Moroccan health authorities, challenges remain in terms of the content and quality of services offered to pregnant women. Moreover, according to the national survey in 2011 [4], only 42.4% and 46.3% of pregnant women presenting in ANC benefited from urinalysis and medical examination. However, WHO in 2005 noted that antenatal care coverage has improved significantly, but antenatal care services do not meet the recommended standards.

In view of this situation, we propose to establish a prenatal follow-up evaluation scale, based on some of the classification criteria in order to monitor the quality of the service and to identify factors associated with good quality ANC among pregnant women who delivered at Souissi Maternity Hospital in Rabat, capital of Morocco.

2. Methods
Among 230 pregnant women, a cross-sectional study was done from 2 to 14 April 2013. A structured questionnaire was used to collect data related to socio-demographic characteristics, medical, obstetric and dietary practices. Moreover, the socio-demographic characteristics of the respondents and the progress of prenatal monitoring were documented during an interview with them before they left the maternity ward. Medical information relating to prenatal consultation and history was collected from the health record and the medical record of the delivery.

In view of the social conditions of most of the respondents which remain low to medium, and the limited services offered, we proposed to establish an evaluation scale consisting of 9 essential criteria; from clinical, biological, ultrasound and educational criteria. These quality criteria are in line with prenatal surveillance standards adopted in Morocco and also with proven efficacy prenatal interventions adopted by Cleon Rooney (1992) in the well-known WHO report; "antenatal care and maternal health: a study of effectiveness" [5].

A pregnancy follow-up is described as (good) quality, when the woman receives all nine criteria.

Criteria 1: Woman receives antenatal care four or more times.
Criteria 2: The first antenatal visits conducted in the first trimester.
Criteria 3: At each ANC, weight and blood pressure were taken.
Criteria 4: The woman has received at least one clinical examination.
Criteria 5: The woman benefited from the standard laboratory investigations in pregnancy (Blood Grouping, Rhesus D factor, Syphilis screening, Full Blood Count)
Criteria 6: The woman has at least an ultrasound scanning.
Criteria 7: Women are protected against maternal and neonatal tetanus
Criteria 8: Women receiving iron/folate supplements
Criteria 9: Women have received health education during pregnancy.
3. Results and Discussion
3.1 Profile of Pregnant Women

The distribution of the 230 women interviewed by age shows that 75.2% (n = 173) are in the age category 19-34 years, followed by women aged 35-49 years [6% (n = 45)] and those under the age of 18 years with a frequency of 5.2% (n = 12). However, the distribution by marital status of women surveyed shows that 94.78% (n = 218) are married, while the distribution according to the level of education reveals a rate of 24.78% of illiterates. Meanwhile, the standard of living of these women 49.1% are in an extreme state of vulnerability (covered by the RAMED medical scheme) and the rest of the women are in an average standard of living either by benefiting from CNSS (employee scheme) or CNOPS (civil service scheme) medical coverage schemes or by their own expense. We note almost a total absence of women whose standard of living is high, this is explained by the fact that this category chooses to give birth in private clinics. On the other hand, 44.8% of these women were primigravida and 51.1% of nullipara. It remains to be noted that three-quarters of these women are of urban origin.

3.2 Quality Monitoring of Pregnancy

The distribution of pregnant women surveyed based on the number of consultations effected shows that 96.5% benefited from at least one consultation and 63.5% (n = 146) performed 4 or more prenatal visits. In addition, 78.82% performed the first prenatal visit at an early stage of pregnancy (during the first trimester). However, women who might benefit from the 9 criteria are ranked among those with a high quality prenatal follow-up index. The rate of achievement of the classification criteria among the women surveyed is shown in figure (1). In fact, 93.5% of these women had an ultrasound scanning and 85.6% of them had their weight and blood pressure taken.

However, the number of ANC visits above 4, physical examination and health education were, respectively, performed in 63.5%, 59.1% and 64.8% of cases. The frequency of women who followed a quality pregnancy follow-up was 23% (53/230) compared to 77% who failed to fulfill the 9 quality criteria together.

Figure 1: Frequency of criteria for quality prenatal follow-up
4. Determinants of Antenatal Care Quality

The search for a possible association between the quality of pregnancy monitoring and some socio-demographic factors by the Independence chi-square test is illustrated in the table (1).

The results of this analysis show no significant link between the quality of follow-up and the variables: Age, Woman's level of education, Spouse's level of education and residence. However, the representativeness of women with a high-quality pregnancy monitoring (79.2%) and those with a poor follow-up of pregnancy (74.0%) is higher among women between the ages of 19 and 34 (OR = 1.34 [0.864, 2.82]) In addition, the representativeness between the two pregnancy-follow-up states does not show differences as a function of the medium of origin (OR = 0.81 [0.40]. The frequency of women with a good follow-up of pregnancy is higher among educated women (OR = 1.55 [0.72, 3.34]), However, the level education of the spouse had almost no effect on the quality of pregnancy follow-up (OR = 1.07 [0.43, 2.66]).

The variables, decision to go to the ANC, the reason for the first ANC, the experience of the first ANC and the women's satisfaction on the monitoring are factors influencing the quality of pregnancy monitoring. Moreover, the chance of good pregnancy monitoring was superior for women satisfied with the first prenatal visit (OR = 2.40 [0.795; 6.02]) than those not satisfied. Women who are satisfied with their pregnancy monitoring are more likely to have quality monitoring. (OR = 2.16 [0.98, 4.76]). About the decision to go to the ANC, women who had the initiative to consult a health professional, generally showed a good quality pregnancy monitoring profile. (OR = 3.9 [1.88, 8.11]). However, the chi-square test (p <0.000) shows that women consulting the health authorities to ensure "if they are pregnant" are more likely to have quality monitoring (OR = 3.81 [0.86; 16.01]).

Table 1: Factors influencing the quality of pregnancy follow-up

<table>
<thead>
<tr>
<th>Caractéristiques</th>
<th>Total</th>
<th>Good ANC</th>
<th>Bad ANC</th>
<th><strong>OR: IC 95%</strong></th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19 -34</td>
<td>173</td>
<td>42 (79,2%)</td>
<td>131 (74,0%)</td>
<td><strong>1.34</strong> (0,637, 2,821)</td>
<td>p=0,439</td>
</tr>
<tr>
<td>19&lt; et 35 ≥</td>
<td>57</td>
<td>11 (20,8%)</td>
<td>46 (26,0%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The education of women</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educated</td>
<td>173</td>
<td>43 (81,1%)</td>
<td>130 (73,4%)</td>
<td><strong>1.15</strong> (0,724, 3,340)</td>
<td>p=0,256</td>
</tr>
<tr>
<td>Uneducated</td>
<td>57</td>
<td>10 (18,9%)</td>
<td>47 (26,6%)</td>
<td></td>
<td></td>
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<tr>
<td>The education of spouse</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educated</td>
<td>194</td>
<td>46 (86,8%)</td>
<td>148 (86%)</td>
<td><strong>1.066</strong> (0,431, 2,633)</td>
<td>p=0,890</td>
</tr>
<tr>
<td>Uneducated</td>
<td>31</td>
<td>7 (13,2%)</td>
<td>24 (14%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residence</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Urban</td>
<td>174</td>
<td>38 (71,7%)</td>
<td>136 (76,8%)</td>
<td><strong>0.813</strong> (0,402, 1,646)</td>
<td>p=0,445</td>
</tr>
<tr>
<td>Rural</td>
<td>56</td>
<td>15 (28,3%)</td>
<td>41 (23,2%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is it the woman who decides to consult?</td>
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<tr>
<td>Yes</td>
<td>198</td>
<td>51 (96,2%)</td>
<td>147 (87,0%)</td>
<td><strong>3.816</strong> (0,867, 16,801)</td>
<td>p=0,05</td>
</tr>
<tr>
<td>No</td>
<td>24</td>
<td>2 (3,8%)</td>
<td>22 (13,0%)</td>
<td></td>
<td></td>
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<tr>
<td>The reason for the first ANC visit</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Make sure you are pregnant</td>
<td>124</td>
<td>41 (78,8%)</td>
<td>83 48,8%</td>
<td><strong>3.907</strong> (1,882, 8,110)</td>
<td>p=0,000</td>
</tr>
<tr>
<td>Other reasons</td>
<td>24</td>
<td>11 (21,2%)</td>
<td>87 51,2%</td>
<td></td>
<td></td>
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<tr>
<td>The experience of the first ANC visit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good</td>
<td>174</td>
<td>46 (88,5%)</td>
<td>128 (76,2%)</td>
<td><strong>2.396</strong> (0,953, 6,023)</td>
<td>p=0,05</td>
</tr>
<tr>
<td>Bad</td>
<td>46</td>
<td>6 (11,5%)</td>
<td>40 (23,8%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women’s satisfaction with quality of ANC</td>
<td></td>
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</tr>
<tr>
<td>Yes</td>
<td>160</td>
<td>43 (82,7%)</td>
<td>117 (68,8%)</td>
<td><strong>2.164</strong> (0,984, 4,761)</td>
<td>p=0,05</td>
</tr>
<tr>
<td>No</td>
<td>62</td>
<td>9 (17,3%)</td>
<td>53 (31,2%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Odds Ratio.
*Intervalle de confiance.
5. Discussion

In Morocco, the main programs for maternal and child health date back to the 1970s. These programs have undergone continuous improvements in prenatal quality monitoring. Indeed, since 2012, the PSP (Pregnancy Surveillance Program) has been enriched by the introduction of new interventions aimed at quantitative improvements (4 ANC visits instead of 3 ANC visits) and qualitative (obligation of physical examination and ultrasound scanning and the addition of other laboratory investigations) of prenatal follow-up [6]. In our country, the ANC is free in the public sector, it is organized at the level of primary health care centers, delivery houses, maternity hospitals and points of contact of mobile teams [7]. The efforts undertaken by the health ministry, resulted in an increase in the coverage of women in prenatal care, which reached 77.1% in 2011 and a significant decrease in the maternal mortality rate, which is 112 deaths per 100,000 live births in 2010, a 60% reduction from 1990 [4].

Using new standards of pregnancy monitoring in Morocco, prenatal quality monitoring was defined by satisfying 9 quantitative and qualitative criteria in order to reduce morbidity and mortality rates. In addition, the percentage of married women in old age is increasing; this leads to decreased fertility and increased pregnancy-related risks. In this context, women need high-quality monitoring to meet their prenatal care needs and also to minimize the risk of poor outcomes during pregnancy. Nevertheless, our study is composed of 51% of nullipara women during their last pregnancy and 19.6% were older than or equal to 35 years.

According to the studies, pregnancy at an advanced age (age > 35 years) has been associated with an increased risk of various maternal complications, caesarean section, premature birth and low birth weight (8,9,10), in our study, these women represent 19.6%, which is lower than the national figure of 32.67% [4].

The level of education of women is considered to be one of the main socio-cultural factors that encourages the use of maternal health care [11, 12]. In our study; almost three-quarters of the women are enrolled in school, this high percentage is partly a reflection of the Moroccan policy of promoting girls education and literacy programs that have achieved significant successes in Morocco.

Married pregnant women, as a result of their spouse’s financial support, may be more likely to report to ANC at an earlier age than those without a spouse. In our survey, we identified 95% of pregnant women as married. This can improve the outcome of pregnancy.

Of the 230 women studied, 222 (97%) consulted at least once during pregnancy. This rate is significantly higher than the national level (77.1%) (4). nearly two-thirds of births (65.76%) were found to have received 4 or more prenatal visits, which is in line with WHO recommendations. This proportion is higher than the (55.3%) but is lower than that observed in Monastir, Tunisia (82.5%) [13].

Regarding the weight and blood pressure criteria, 85% of the women benefited from these two examinations simultaneously. In our survey, almost all women who have consulted at least once have benefited from the blood pressure measurement, a percentage of 98.6%.

Ultrasound scanning was very satisfactory since 93.5% of women used this examination. This success is due to the increased demand of women for this examination, to ensure the health of the fetus. In our survey, more than 77% of women used iron-folic acid supplementation during pregnancy, which is significantly higher than the national level of 57%. This difference is explained by the status of our women who are mainly urban residents 75% and educated. This favors easier access to prenatal services in general and supplementation in iron and folate particularly. This supplementation is satisfactory because iron and folate are available free of charge as part of the antenatal care package, which is also free of charge in the public health facilities responsible for monitoring pregnancy.

The efficacy of tetanus vaccination in pregnant women for the prevention of neonatal tetanus deaths is well established [14]. In our series; more than 69.1% of the births were protected against neonatal tetanus, this percentage is almost similar to the national rate, which is around 72.5%.

Essential laboratory tests (Criteria 5) are in order of 3: Full Blood Count (FBC) for early detection of anemia by measurement of hemoglobin. The second laboratory test, which is the
identification of the blood group and of the rhesus D status is intended to save time in the search for compatible blood in emergencies and prevent hemolytic disease in the newborn and ultimately screen for syphilis because its transmission to the fetus is associated with neonatal death, congenital syphilis, stillbirth and premature birth. [15] These laboratory examinations are satisfactory for 75% of the women studied. This is mainly due to the fact that the laboratory tests are free of charge for pregnant women in public medical laboratories in Morocco.

The education of pregnant women about pregnancy and its follow-up, danger signs, nutrition and lifestyle. In our study, 64.8% of women received advice on pregnancy follow-up. This rate remains low, despite the efforts made by the Ministry of Health, which adopted in 2005 the education of pregnant mothers through the "Mothers’ class", whose objective is to organize educational sessions aimed at improving and promoting the health of mothers and children.[16]

The identification of clinical signs which indicate risk, by among other methods, through an adequate and complete physical examination, which covers the heart, lungs, breasts, abdomen, extremities, as well as obstetric inspection, palpation and obstetric auscultation [17]. This review is satisfactory with only 59% of the women interviewed. Our rate is higher than the national rate of 46.3%. This low rate could be explained either by the failure to carry out such examinations, or failure to document the woman's medical record, in the absence of a written culture.

The factors influencing the quality of pregnancy follow-up are: the decision to go to the ANC; the reason for the first prenatal visit; the experience of the first ANC and the satisfaction of women with the services offered as factors independently associated with quality prenatal monitoring. These factors can be explained on the one hand by the quality of the health professional relationship with the pregnant woman who create a relationship of trust, which encourages the woman to follow her pregnancy well. On the other hand, by the degree of autonomy of the woman.

6. Conclusion
Maternal and infant mortality is a public health problem in Morocco. In order to reduce this problem, the Ministry of Health has developed several actions, including improving the coverage and quality of prenatal care during pregnancy. The results of our study show that prenatal care coverage is very satisfactory (96.5%), but the benefits offered do not meet the recommended standards, as it has been found that only 23% of women have benefitted from prenatal care of standard quality as per the recommended criteria.

To improve the quality of ANC we recommend that health professionals complete the physical examination and paraclinical investigations and provide more information to pregnant women about the importance of regular prenatal consultations.

References


