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Awareness of danger signs and nutritional education among pregnant women in Kassala, Eastern Sudan

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ABSTRACT

Objective: To determine awareness of pregnancy danger signs and nutritional education among pregnant women attending antenatal care clinics in six health centres in Kassala, eastern Sudan.

Methods: A cross-sectional survey of 388 pregnant women attending the antenatal care clinics in six health centres in Kassala, eastern Sudan during July 2010. Structured questionnaires were used to gather the socio-demographic data, first booking, number of visits, schedule/timing of every visit, provided care (history, examination, investigation, health and nutrition education, counseling about screening of sexually transmitted diseases [STIs], plan of delivery and family planning).

Results: 83.8% out of the 388 interviewed women had at least one visit and only 16.2% had ≥ four antenatal visits, most of the women claimed that they spent 5 minutes or less with the antenatal care provider. 10.6% recalled that they were educated about: diet and nutrition, 28.4% on pregnancy symptoms, 45.4% on schedule/timing of the subsequent visit, 63.4% on plan of delivery, and 4.1% on family planning. However no woman had been counselled about screening of STIs, HIV and breast self examination. Most of the women (342, 88.1%) were not aware of the danger signs of pregnancy.

Conclusions: A small proportion of women attending the antenatal care in Kassala, eastern Sudan, are aware of the danger signs of pregnancy and they did not benefit from the services related to nutrition and diet education, as well as family planning and counselling on STIs; in particular HIV.

Keywords: Education, nutrition, Antenatal care, Pregnancy, Sudan.

1. INTRODUCTION

Antenatal care provides an opportunity to educate the pregnant woman about pregnancy and child birth. Under usage of antenatal care has been repeatedly associated with adverse maternal outcomes. However there is controversy about the impact of antenatal education on pregnancy outcome[1-3]. Antenatal education programmes are a very important component of antenatal care worldwide since it makes women contribute to the maximum for a better pregnancy outcome and care of the neonate[4, 5]. Antenatal care provides advice, reassurance, education on nutrition during pregnancy, danger signs of pregnancy, screening programs for HIV and other sexually transmitted diseases (STIs) and it detects the problems that make the pregnancy a high risk one[6]. Sudan, which is the largest country in Africa with 40 million inhabitants, has one of the highest rates of maternal and perinatal mortality[7]. We have previously suggested that the high maternal and perinatal mortality rates in Sudan could be reduced by increasing the use of antenatal care[2, 8]. In spite of this, there is very limited published data regarding the use of antenatal care in Sudan[9, 10]. Thus for further exploration of this issue, this study was conducted to determine women’s awareness of danger signs of pregnancy, nutritional education and their satisfaction considering the care provided in Kassala, eastern Sudan.

2. MATERIALS AND METHODS

Kassala state, eastern Sudan covers 42,282 square kilometers of Sudan’s geographical area; it accommodates 1.8 million of its 40 million population. 40.2% of the antenatal care provided is that at health centre level and led by medical officers; while the remainder is provided at hospitals and private clinics[11].
The study was carried out during July 2010 in six health centres; which were selected randomly. The selected antenatal care clinics open twice per week from 8:00 am to 1:30 pm; where the services provided are free of charge. The activities provided there include history taking, clinical examination, routine laboratory tests (CBC, BG-Rh, and urine analysis), health and education discussions, vaccination programmes, iron and sometimes calcium supplementation. Data was collected via a structured questionnaire prepared in local language (Arabic). Socio-demographic data, first booking, number of visits, duration of every visit, provided care (history, examination, investigation, health and nutrition education, counseling about screening of STIs, plan of delivery - family planning) were gathered by trained medical students after obtaining informed consent and verbal explanation of the purpose of the study to investigate the awareness of women about danger signs of pregnancy and nutritional education. The pregnant women were reassured about the confidentiality of the information and no woman refused to participate in the study. All women attending for antenatal care during the time of the study were eligible to participate in the study with exclusion of emergency conditions.

Data was entered into a computer database and SPSS software (SPSS Inc., Chicago, IL, USA, version 13.0) was used and double checked before analysis. Proportions were calculated.

The study received ethical clearance from the Research Board Committee at Kassala State Ministry of Health, eastern Sudan.

3. RESULTS

The mean age, parity and gestational age of the 388 women interviewed was 26.9±6.2, 2.7±1.8 and 28.3±9.2 respectively, 83.8% had at least one visit and only 16.2% had more than 4 visits at the time of study. 105 (27.1%), 135 (34.8%) and 148 (38.1%) women booked in the first, second and third trimester respectively. Most of the women claimed that they spent 5 minutes or less with the antenatal care provider. About 10.6% recalled they were informed and educated about diet and nutrition, 28.4% on pregnancy symptoms, 45.4% on schedule/timing of the subsequent visit, 63.4% on plan of delivery, and 4.1% on family planning. However no woman had been counselled about screening of sexually transmitted infections and HIV and no attending woman had been educated about self examination of the breast for cancer. Most of the women (342, 88.1%) were not aware of the danger signs of pregnancy. 94.6% claimed that the doctor asked them about the history and in 95.1% of the women the blood pressure had been checked in every visit, table 1.

### Table 1: Number of antenatal visits and provided information, Kassala, Sudan

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number (n=388)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of visits:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 4</td>
<td>325</td>
<td>83.8</td>
</tr>
<tr>
<td>≥ 4</td>
<td>063</td>
<td>16.2</td>
</tr>
<tr>
<td>Total</td>
<td>388</td>
<td>100</td>
</tr>
<tr>
<td>Educated about diet:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Informed: Coming visit</td>
<td>41</td>
<td>10.6</td>
</tr>
<tr>
<td>Educated about pregnancy symptoms</td>
<td>110</td>
<td>28.4</td>
</tr>
<tr>
<td>Educated about family planning</td>
<td>16</td>
<td>4.1</td>
</tr>
<tr>
<td>Informed: plan of delivery</td>
<td>246</td>
<td>63.4</td>
</tr>
<tr>
<td>Aware of the danger sign</td>
<td>46</td>
<td>11.9</td>
</tr>
</tbody>
</table>

4. DISCUSSION

The current study showed a low level of awareness of danger signs among the pregnant women attending antenatal care in Kassala, eastern Sudan. This might contribute to failure to receive adequate care at the appropriate time and hence high maternal mortality in this region of Sudan[12]. Community participation and thus individual woman and families’ involvement is the key requirement for sustainable reduction of maternal mortality[13], therefore it is very important to spend more time with the women at the antenatal care level for information and education. Despite that new antenatal care models recommend 30 – 40 minutes for the first visit and 20 minutes for the subsequent visits most of the women investigated in the current study claimed that the antenatal care providers spent 5 minutes or less with the client[14]. Like other developing countries, e.g. Gambia, education during antenatal care in our present study is poor[15]. There is good opportunity for information and education during Antenatal care; unfortunately a high percentage of women in our study who claimed that they were not educated about nutrition and diet might explain the high incidence of maternal anaemia in this part of Sudan as well as
its complications and perinatal complication\textsuperscript{16, 17}.

The study was conducted in health centres and didn't involve the governmental hospitals or the private clinics furthermore other determinants for quality of care like training and supervision were not tested. In summary there was low level of awareness of danger signs among women attending the antenatal care in Kassala, eastern Sudan, as well as little benefit from this service considering nutrition and diet education, family planning and screening for sexual transmitted infections. There should be more efforts to improve the quality of antenatal care.

Reference