Perceptions of Nurses and Pregnant Women Regarding Quality of Antenatal Care in Bangladesh

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Abstract

Quality of antenatal care is an important determinant of safe motherhood. This descriptive study aimed to compare the differences between nurse’s perceptions and pregnant women’s perceptions regarding quality of antenatal care in Bangladesh. Fifty six nurses and 56 pregnant women were randomly selected from eight medical college hospitals. The modified quality of antenatal care questionnaire consisted of technical care and interpersonal care scale and was used for data collection. Mann-Whitney U-Test and Independent T-test were employed for data analysis. The results revealed that overall nurse’s perceptions regarding quality of antenatal care was significantly higher than the pregnant women’s perceptions ($M = 179.45$ vs. $M = 164.49$, $t = 4.54$, $p < 0.001$). It is recommended to improve existing nursing practice regarding quality of antenatal care in order to shorten the discrepancies between the nurse’s perceptions and pregnant women’s perception.

Keyword: antenatal care, quality care, nurse, pregnant women, perception
Background and Significance of the Problem

Pregnancy is the condition that may cause maternal death and sufferings due to the lack of adequate care during pregnancy and childbirth. In Bangladesh, 69% of women do not receive any antenatal care (Chakraborty, Islam, Chowdhury, & Bari, 2003). Only 15% deliveries occur in health facilities and 90-94% at home and most of them did not get any care from trained health personnel during antenatal or delivery. Most prevalent complications during pregnancy calls for the requirement of an adequate antenatal care (Islam, Chowdhury, & Akhter, 2006). Antenatal care can detect abnormalities that may contribute to early diagnosis and treatment of the abnormality. For instance, pregnant women may develop anemia and less weight gain. The evidence base in Bangladesh, 50% of pregnant women are anemic (Islam, Hossain, Islam, & Haque, 2005). This problem can be prevented through the suitable dietary regime and health education in antenatal care service (Isaranurug, Mo-suan, & Choprapawon, 2007). Therefore, health information and positive interpersonal relationship between nurses and pregnant women may initiate them to practice the health promoting behaviors. Nurse’s activities in antenatal care can promote the women’s physical and psychological well-being (Fraser & Cooper, 2003).

Antenatal care is the maternal care performed during pregnancy which aimed at better outcomes for both mother and fetus. In Bangladesh, maternal mortality rate is 320 cases per 1000 per year (Government of the People’s Republic of Bangladesh, 2007). In addition, 80% of women suffered from morbidity and 9 millions survive with complications due to pregnancy (Chakraborty et al., 2003). Globally, neonatal mortality rate is 36 per 1000 live births, and in Bangladesh, it is 41 per 1000 live births (Mercer et al., 2006). Twelve percent of infants, who lost their mothers on the day of delivery died within 2 months (Koenig, Phillips, Campbell, & Dsouza as cited in Gayen & Raeside, 2007). Based on a literature review of maternal health, the health care delivery system needs to find out the determinants and solutions in order to reduce the maternal mortality and morbidity.

Antenatal care is an important determinant and solution for safe motherhood and is a key strategy for reducing maternal mortality and morbidity (Simkhada, van Teijlingen, Porter, & Simkhada, 2008). Through the appropriate assessment and providing health information during the antenatal care, nurses can promote the maternal health. Consequently, pregnancy-related diseases and 90% of maternal death could be prevented (Chowdhury, Islam, Gulshan, & Chakraborty, 2007). Quality of antenatal care plays a vital role to promote maternal health and outcome of pregnancy. This care should be performed as per the standards of care that is regularly monitored by nurses or other health personnel (Rani, Bonu,
& Harvey, 2008). In this study, the quality of antenatal care was focused on the process of care taken by the nurses and thus representing their actual performance in taking care of the pregnant women. Below standard quality of care contributes significantly to the high maternal mortality and dissatisfaction of client (Fawole, Okunlola, & Adekunle, 2008) especially among those who have easy access to health care services. To improve health care services, people have very little voice to define its standard in Bangladesh (Andaleeb, Siddiqui, & Khandaker, 2007). Thus, in order to maintain the standard of quality in antenatal care service, it is required to assess the perception of nurses and pregnant women regarding the quality of antenatal care.

Perception of pregnant women can be used as an indicator of quality of antenatal care. The discrepancy between pregnant women’s perception and nurse’s perception could provide a good evidence reflecting quality of antenatal care. With this regard, the researcher conducted this study in order to compare the perceptions between nurses and pregnant women. It is hoped that the findings of this study would be helpful to improve antenatal care in Bangladesh.

**Objectives of the Study**

1. To identify the level of nurse’s perception regarding the quality of antenatal care
2. To identify the level of pregnant women’s perception regarding the quality of antenatal care
3. To compare the perception of the quality of antenatal care between nurses and pregnant women regarding the quality of antenatal care.

**Technical Terms**

*Quality of antenatal care* refers to the process of care that provided by nurses to pregnant women at antenatal care unit which includes technical and interpersonal care.

*Technical care* refers to nursing activities regarding assessment and providing health education to pregnant women at antenatal clinic. Assessment consists of history taking, physical examination, abdominal examination, and laboratory investigation. Health education consists of nutritional management, health risk management, breast feeding, newborn care and postnatal care.

*Interpersonal care* refers to nursing activities to the pregnant women in order to enhance their psychological well-being. It consists of providing comfort, maintaining privacy, building relationship and respecting for autonomy of the pregnant women.
Perception of quality of antenatal care refers to the nurse’s and pregnant women’s responses to the technical care and interpersonal care provided by nurses at antenatal clinic. It was measured by the modified Quality of Antenatal Care Questionnaire (QACQ). Two identical sets of the QACQ questionnaires were used.

**Conceptual Framework**

The conceptual framework of this study was modified from the previous works of Donabedian (1980) and Boller and colleagues (2003). From Donabedian’s framework, ‘process’ of care was selected and it was defined as normative behavior of nurses as perceived by nurses and pregnant women. The concept of quality of antenatal care was conceptualized based on Boller and colleague’s work which focused on nurse’s technical care and interpersonal care (Figure 1). Technical care has two sub-dimensions: assessment and health education. Assessment includes history taking, physical examination, abdominal examination, and laboratory investigation. Health education includes nutritional management, health risk management, breast feeding, newborn care and postnatal care. Interpersonal care is the activities that nurses provide to pregnant women at antenatal clinic to enhance their psychological well-being which include providing comfort, maintaining privacy, building relationship and respecting for autonomy of the pregnant women.
Figure 1. Conceptual framework of the study

Research Methodology

Design: A descriptive study was conducted with the aim to compare the difference between nurse’s perception and pregnant women’s perception regarding the quality of antenatal care. Fifty six nurses and 56 pregnant women who working and attending in antenatal clinic were randomly selected (seven subjects /group/ hospital) from eight medical college hospitals in Bangladesh. Eight settings were selected conveniently. Sample size was estimated by power analysis. The effect size of 0.48, alpha (α) of 0.05, and a power of 0.80 were used to estimate the required number of subjects, yielding a number of 50 per group.

Instrument: There were two identical questionnaires with two parts used in this study. The first part consist of demographic information of nurses including age, religion, marital status, educational level, monthly income, working experience in antenatal clinic, participation in any antenatal care training program and job experience; and demographic information of pregnant women including age, religion, marital status, educational level, occupation, monthly family income, gestational age, number of antenatal visits, number of parity and number of living children. The second part was the quality of antenatal care questionnaire. There were 65 items in this: 44 items in technical care and 21 items in interpersonal care. Technical care items were divided into two subscales: assessment 23 items and health education 21 items. Each item was rated using a 4-point Likert scale ranging from never = 0 to always = 3. The total score can range from 0 to195 and was categorized into three levels: 0-65 = low, 66-130 = moderate and 131-195 = high. Sub dimensions technical care score could range from 0-132, and it was also categorized into three levels: 0-44 = low, 44.1-88 = moderate and 88.1-132 = high and interpersonal care score range from 0-63: 0-21 = low, 21.1-42 = moderate and 42.1-63 = high. Technical care subscales: assessment score range from 0-63: 0-21 = low, 21.1- 42 = moderate and 42.1- 63 = high; and health education score ranges from 0-69: 0-23 = low, 23.1-46 = moderate and 46.1-69 = high. Back translation method was employed to translate the original English version to Bengali version. The questionnaires were tested for validity and reliability of the content. Content validity was assessed by a panel of three experts, from Thailand and Bangladesh. Internal consistency reliability was determined by Cronbach’s Alpha coefficient, yielding values of 0.87 for nurse’s questionnaire and 0.88 for pregnant women’s questionnaire.

Data collection: Data were collected by the principal researcher and 3 research assistants after getting consent from the participants. For nurses, structured questionnaire
were distributed for answering and were collected back by the researcher after 2 hours. It was checked for missing data, if any. For pregnant women, interviews were conducted.

**Data analysis:** Descriptive and inferential statistics were used to analyze the data. There were influential outliers (3 nurses and 1 pregnant woman), therefore, they were excluded and only 53 nurses and 55 pregnant women were used in the subsequent data analysis. Descriptive statistics were used to describe subject’s characteristics and the study variables. Independent T-test and Mann-Whitney U-Test were used to test mean differences.

**Results**

**Nurse’s demographic characteristics**

The mean age of the nurse’s was 42.5 years (SD = 5.94), ranging from 30-54 years. The majority of the nurses was Muslim (62.5%) and married (98.2 %). With regard to educational status, Bachelor in nursing holders accounts for 17.9 %, and only 1.8 % holds masters degree, and remaining were Diploma holders (80.4 %). Majority (91.1 %) have more than 6 months working experience in antenatal care unit and more than 10 years (80.4 %) job experience where as, 25% nurses participated in antenatal care training program.

**Pregnant Women’s Demographic Characteristics**

The mean age of the pregnant women was 25.27 years (SD = 4.62), ranging from 18-38 years. The majority of pregnant women was Muslim (82.1 %) and married (100 %). With regard to educational status, less than half (44.6 %) completed their primary school and some of them (7.1 %) did not have any education status. Most of them were housewives (96.4 %). Pregnant women who completed antenatal visits more than twice were 82.1 %. More than half (62.5%) women’s gestational age was 32 weeks and more. More than one-third (35.7 %) came to receive third antenatal visit (37.5 %) and forth visit accounts for 12.5 %. More than two-fifths (42.9 %) were second parity with one number of living children.

**Nurse’s Perceptions Regarding Quality of Antenatal Care**

The total score of nurse’s perceptions regarding quality of antenatal care was found to be at a high level (M = 176.95, SD=16.07), with the scores ranging from 122-195. For the sub-dimension, technical care, the mean score was 116.18 (SD = 14.74) and the mean score of interpersonal care was 60.77 (SD = 2.58) (Table 1).
Table 1 Means, Standard Deviation and Level of Nurse’s Perceptions Regarding Quality of Antenatal Care (n = 56)

<table>
<thead>
<tr>
<th>Quality of antenatal care</th>
<th>Rang</th>
<th>Min</th>
<th>Max</th>
<th>M</th>
<th>SD</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical care</td>
<td>0 - 132</td>
<td>70</td>
<td>132</td>
<td>116.18</td>
<td>14.74</td>
<td>High</td>
</tr>
<tr>
<td>Assessment</td>
<td>0 - 63</td>
<td>23</td>
<td>63</td>
<td>51.59</td>
<td>10.80</td>
<td>High</td>
</tr>
<tr>
<td>Health education</td>
<td>0 - 69</td>
<td>45</td>
<td>69</td>
<td>64.59</td>
<td>5.57</td>
<td>High</td>
</tr>
<tr>
<td>Interpersonal care</td>
<td>0 - 63</td>
<td>52</td>
<td>63</td>
<td>60.77</td>
<td>2.58</td>
<td>High</td>
</tr>
<tr>
<td>Total score</td>
<td>0 - 195</td>
<td>122</td>
<td>195</td>
<td>176.95</td>
<td>16.07</td>
<td>High</td>
</tr>
</tbody>
</table>

Pregnant Women’s Perceptions Regarding Quality of Antenatal Care

The total score of pregnant women’s perceptions regarding quality of antenatal care was also found to be high (M = 162.71, SD = 24.70), with the scores ranging from 65-195. The perceptions of pregnant women regarding technical care was 106.55 (SD = 18.74) and the mean score of interpersonal care was 56.16 (SD = 7.25) (Table 2)

Table 2 Means, Standard Deviation and Level of Pregnant Women’s Perceptions Regarding Quality of Antenatal Care (n=56).

<table>
<thead>
<tr>
<th>Quality of antenatal care</th>
<th>Rang</th>
<th>Min</th>
<th>Max</th>
<th>M</th>
<th>SD</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical care</td>
<td>0 - 132</td>
<td>37</td>
<td>132</td>
<td>106.55</td>
<td>18.74</td>
<td>High</td>
</tr>
<tr>
<td>Assessment</td>
<td>0 - 63</td>
<td>18</td>
<td>63</td>
<td>46.85</td>
<td>12.66</td>
<td>High</td>
</tr>
<tr>
<td>Health education</td>
<td>0 - 69</td>
<td>19</td>
<td>69</td>
<td>59.70</td>
<td>8.92</td>
<td>High</td>
</tr>
<tr>
<td>Interpersonal care</td>
<td>0 - 63</td>
<td>28</td>
<td>63</td>
<td>56.16</td>
<td>7.25</td>
<td>High</td>
</tr>
<tr>
<td>Total score</td>
<td>0 - 195</td>
<td>65</td>
<td>195</td>
<td>162.71</td>
<td>24.70</td>
<td>High</td>
</tr>
</tbody>
</table>

Comparison between nurse’s perceptions and pregnant women’s perceptions regarding quality of antenatal care and technical care

The nurse’s overall perceptions of quality of antenatal care was significantly higher than the pregnant women’s perceptions (M = 179.45, M = 164.49 (t = 4.54, p < .001). The nurse’s perceptions of sub-dimension technical quality care was significantly higher than the pregnant women’s perceptions (M = 118.49, M = 107.82, t = 3.97, p < .001) (Table 3)
Table 3 Comparison Between Nurse’s Perceptions and Pregnant Women’s Perceptions Regarding Quality of Antenatal Care and Technical Care and by Using Independent T-test

<table>
<thead>
<tr>
<th>Quality of antenatal care</th>
<th>Nurse (n = 53)</th>
<th>Pregnant women (n = 55)</th>
<th>t</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Total quality of antenatal care</td>
<td>179.45</td>
<td>12.26</td>
<td>164.49</td>
<td>21.1</td>
</tr>
<tr>
<td>Technical care</td>
<td>118.49</td>
<td>11.28</td>
<td>107.82</td>
<td>16.33</td>
</tr>
</tbody>
</table>

** P < .001

Comparison between nurse’s perceptions and pregnant women’s perceptions regarding interpersonal care

When the researcher compare the difference between nurses perceptions and pregnant women’s perceptions regarding interpersonal care, the assumption normality of t-test was violated. Therefore, the Mann–Whitney U-Test was used to test the difference between both groups. The nurse’s perceptions regarding interpersonal quality of care was significantly higher than that of the pregnant women (M = 68.07, M = 41.43, Z = 4.468, p < .001).

Comparison Between Nurse’s Perceptions and Pregnant Women’s Perceptions Regarding Interpersonal Care by Using Mann–Whitney U-Test

<table>
<thead>
<tr>
<th>Subdimension</th>
<th>Nurse (n = 53)</th>
<th>Pregnant women (n = 55)</th>
<th>Z</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean rank</td>
<td>Min</td>
<td>Max</td>
<td>Mean rank</td>
</tr>
<tr>
<td>Interpersonal care</td>
<td>68.07</td>
<td>54</td>
<td>63</td>
<td>41.43</td>
</tr>
</tbody>
</table>

** P < .001

Discussion

Nurses and nurse midwives as well as other healthcare providers need to play significant roles in reducing maternal and neonatal morbidity and mortality. This present study provides additional evidence from the nursing professional’s point of view to demonstrate, how nurses working in this area and their clients, pregnant women, perceived about antenatal care given to them in the context of Bangladesh. Yet, the findings of this study are promising; a few limitations should be addressed. First, eight hospitals in this study were all public and medical college hospitals. This may limit the generalizability of the
findings to private and non-medical college hospitals. Second, self-report method was used; which also has some weaknesses. The most serious concern of using self-report is related to the validity and accuracy of the collected data, whether subjects feel or act the way they actually do (Polit & Beck, 2004). Thus, this shortcoming should be recognized in which nurses as well as their clients, pregnant women may respond to the questionnaire in such a way that will make them look good or pregnant women may want to please nurses.

Nurses who participated in this study reported the high level of quality of antenatal care provided to pregnant women in both technical care and interpersonal care (Table 1). Pregnant women also rated the quality of antenatal care provided by nurses at the high level, although they rated significantly lower than nurses did (Table 3). These findings are not surprising and are consistent with previous studies. Langer et al. (2002) compared provider’s and patient’s perception across four developing countries. They found that the providers scored themselves higher than their patients did in relation to the information they provided during antenatal check-ups. Muntlin and colleagues (2006) aimed to identify the client’s perceptions regarding quality of care at an emergency department to identify the areas for quality improvement. They found that health nurse’s and physician’s perceptions were different from the client’s perception. Another study (Kritchareon et al., 2005) compared nurse-midwives and clients perception about the nurse-midwife’s actual and expected roles in antenatal, delivery, postpartum, and social and cultural care in Thailand. They found that nurse-midwife’s perceptions were significantly higher than the clients. In this study, perceptions about nurse-midwife’s actual and expected roles in antenatal care were significantly ( p < 0.001) higher than that of pregnant women. Some factors such as, structure of hospital, nurses working experience in antenatal care unit, job experience, educational level, and training program may help to explain these findings.

Firstly, nurses providing their antenatal care from the tertiary level medical college hospitals which are structurally different from district hospitals. Nurses, who are working in medical college hospitals has many facilities such as, staffing, laboratory investigation, separate room for abdominal check-up and provision of health education, that encouraging them to perform their nursing care in antenatal care unit in a standard way. Structural factors were influencing nurses to perceive high quality. These findings are partially congruent with the previous study of Boller et al. (2003), who compared public and private providers for the structure and process of quality of antenatal care. They showed that both public and private providers were reasonably good with regards to the structural and interpersonal quality care.
Secondly, working experience in antenatal care unit, duration of job experience, level of nurses’ education, and their participation in training program in antenatal care may contribute for up-grading nurse’s professional knowledge and developing skill and practice. These positively influencing for providing satisfactory care to the pregnant women. In this study nurses having working experience of more than 6 months in antenatal care (91.1 %), job experience of more than 10 years (80.4 %), educational level of more than diploma in nursing (19.6 %), and participation in antenatal care training program (25%) were influencing on high perception. These findings supported by previous studies which found that, quality of antenatal care is closely linked to the quality of the health care personnel (Boller et al.). Professional knowledge, working experience, and training program have positive influence on nurse’s perception regarding quality of antenatal care (Kritcharoen et al.).

Pregnant women also reported the high level of antenatal care (Table 2). This may be due to the fact that nurse’s performance was effective in meeting the pregnant women’s satisfaction. Some factors such as, structural facilities, knowledges and skilled nurses were helpful in meeting the pregnant women’s need. In this study, structural facilities facilitated nurse to provide technical care and interpersonal care such as providing comfort through build-up good relationship, maintained privacy during consultancy and respect to pregnant women’s autonomy by asking permission for examination. Those kinds of nursing care in antenatal clinic were able to satisfy the pregnant women that may influenced them to perceive high quality of antenatal care. This findings were supported by previous study which found that, health care quality, care provider’s behavior, respect for client’s autonomy and maintenance of privacy are more important to satisfy the clients which influenced to perceive high quality of care (Aldana, Piechulek, & Al-Sabir, 2001). The pregnant women who performed antenatal visits more than two times were 82.1%, whose gestational age was 32 and more were 62.5 %. All of these are the influencing factors to perceive whether nurses performed their activities in a standard and satisfied manner. Previous study (Fawole et al, 2008) found that, more than 98% of pregnant women perceived that the quality of antenatal care they received from nurses and other health personnel were able to meet their satisfactions. Kritcharoen et al. (2005), found that pregnant women perceived nurse-midwives actual roles in antenatal care than that of expected role which statistically significant (p < .001 ). In contrast, nurse pregnant women ratio, long waiting time, spending time during visit, educational level of pregnant women would be influencing factors to perceived quality of antenatal care as a low level (Fawole et al.).
Conclusion

This study aimed to examine the difference between nurse’s perceptions and pregnant women’s perceptions regarding quality of antenatal care in Bangladesh. Fifty six nurses and 56 pregnant women were recruited randomly from 8 medical college hospitals from antenatal care unit. Data were collected after obtaining the consent from all subjects and was analyzed by using descriptive and inferential statistics. Findings showed that levels of both groups were high in which the nurse’s perceptions were significantly higher than those of pregnant women for both quality regarding technical care and interpersonal care. Finding of this study may limit the generalizability due to selecting only public and medical college hospitals and for using of self-report method that has some weaknesses.

Recommendation

The researcher recommends improving the existing nursing practice. Further in-depth interview and qualitative study may be conducted to explore the actual perceptions.

Acknowledgement

The researcher would like to acknowledge to Prince of Songkla University, Thailand for providing learning resources and the Government of Bangladesh for providing scholarship for this study in abroad. Acknowledgement also goes to the subjects and directors of the study areas for their valuable contribution.
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