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SATISFACTION AND ADEQUACY OF INFORMATION AMONG ANTENATAL WOMEN ATTENDING NURSE-LED ANTENATAL CLINIC OF OBSTETRICS AND GYNAECOLOGICAL DEPARTMENT AT A TERTIARY CARE HOSPITAL OF TAMIL NADU

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ABSTRACT

The study aimed to assess the adequacy of information and satisfaction among antenatal mothers attending nurse-led antenatal clinic in a tertiary care hospital and to determine the relationship between these two variables. A descriptive cross-sectional design was adopted and 154 antenatal mothers were recruited using purposive sampling. Eligible participants were those above 38 weeks of gestation with at least four antenatal visits at the nurse led clinic. Data were collected using a researcher-developed, content-validated questionnaire consisting of demographic variables, an adequacy of information scale and a satisfaction scale, both rated on a Likert format. Participants completed the self-administered questionnaire during their routine antenatal visits after providing informed consent. Data were analyzed using SPSS. The mean age of the participants was 24.59 ± 3.59 years, with the majority being graduates (56.5%), rural residents (65.6%) and housewives (85.7%). More than half were primigravida (51.3%) and most had no previous experience with the nurse-led clinic (74%). Satisfaction scores ranged from 4.76 to 4.91, indicating very high satisfaction with nurse led clinic (NLC) services, particularly regarding respect, communication and trust. Adequacy of information scores were similarly high, ranging from 4.66 to 4.90, with a total mean score of 47.78 ± 4.06 , reflecting strong agreement that essential antenatal information was well communicated. A statistically significant positive correlation was found between adequacy of information and satisfaction ($r = 0.22$, $p = 0.006$), supporting the study hypothesis. The findings highlight the effectiveness of nurse-led antenatal clinics in delivering comprehensive health education and fostering high satisfaction, underscoring their crucial role in enhancing maternal healthcare quality.

KEYWORDS

Adequacy of information, Nurse-led antenatal clinics and Satisfaction highlights.

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INTRODUCTION

Antenatal care is fundamental to ensuring positive maternal and neonatal outcomes, particularly in low- and middle-income countries where maternal morbidity remains a public health concern. Globally, evidence shows that high-quality antenatal care

reduces pregnancy-related complications by facilitating early detection of risks, improving health literacy and ensuring continuity of care (World Health Organization [WHO], 2020)¹. In India, the Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCH+A) strategy emphasizes timely antenatal visits, client-centered care and strengthening of maternal health services to improve pregnancy outcomes (Ministry of Health and Family Welfare [MOHFW], 2021)².

Nurse-led antenatal clinics have emerged as an effective model of care delivery, utilizing the advanced clinical skills of nurses to provide comprehensive assessment, counseling and supportive education. Studies show that nurse-led models enhance accessibility, reduce waiting time, promote personalized communication, and lead to improved maternal satisfaction (Hunter *et al*, 2019)³. Because nurses spend more time with patients, they are well-positioned to offer essential information related to pregnancy, danger signs, birth preparedness, and self-care (Akhter *et al*, 2022)⁴. Adequacy of information is a crucial determinant of maternal confidence, preparedness, and informed decision-making during pregnancy.

Satisfaction with antenatal care is often linked to the interpersonal qualities of the provider, the clarity and completeness of information given, and the overall experience within the healthcare system (Turan *et al*, 2019)⁵. When mothers perceive that information is adequate and communication is respectful, their satisfaction and adherence to follow-up visits significantly increase. Hence, evaluating the satisfaction and adequacy of information provided in nurse-led antenatal clinics is essential to improving service quality and shaping future maternal health policies.

Given the increasing emphasis on patient-centered care and the expanding role of nurses in antenatal services, it becomes vital to assess how well nurse-led antenatal clinics meet the information needs of mothers and how satisfied they are with the care they receive.

NEED FOR THE STUDY

Maternal mortality continues to be a major concern in India, with preventable causes such as hemorrhage, hypertension, and infection contributing significantly to adverse outcomes (MOHFW, 2021)². Adequate antenatal care and timely health education can prevent most of these complications by empowering women with knowledge about danger signs and available services. Although nurse-led antenatal clinics have been implemented in many tertiary care centers, limited evidence exists regarding the extent to which these clinics provide adequate information or meet mothers' satisfaction levels. Research indicates that gaps in communication and inadequate information remain major barriers to effective maternal care (Downe *et al*, 2019)⁶. Furthermore, satisfaction is strongly associated with better compliance, continuity of care, and positive maternal experiences. Understanding the adequacy of information and satisfaction in nurse-led antenatal clinics will help identify strengths and areas requiring improvement. The findings can contribute to optimizing antenatal care services, enhancing patient experience and ultimately improving maternal and neonatal outcomes.

Objectives

To assess the adequacy of information provided to antenatal mothers attending the nurse-led antenatal clinic.

To assess the satisfaction level of antenatal mothers regarding the services in the nurse-led antenatal clinic.

To determine the relationship between adequacy of information and satisfaction among antenatal mothers.

Hypotheses

H1: There is a significant relationship between the adequacy of information and satisfaction among antenatal mothers attending the nurse-led antenatal clinic.

METHODS

A descriptive cross-sectional research design was adopted to assess the adequacy of information and satisfaction among antenatal mothers attending the

nurse-led antenatal clinic. The study was conducted in the Outpatient department of a tertiary care hospital in Vellore, Tamil Nadu. A total of 154 antenatal mothers were recruited as the study sample using purposive sampling technique who met the predefined inclusion criteria. Antenatal women above 38 weeks of gestation and who had completed a minimum of four antenatal visits at the nurse-led antenatal clinic and who were willing to participate and provided informed consent were recruited in the study. A researcher-prepared questionnaire was developed based on literature review and expert content validation. The instrument consisted of Section A: Demographic and clinical variables, Section B: Adequacy of information questionnaire, Section C: Satisfaction scale for antenatal services at NLC. The satisfaction and information tools used a Likert scale to assess participants' responses. Eligible participants were approached during their routine antenatal visits. After explaining the purpose of the study, informed consent was obtained from each participant. The self-administered questionnaire was then provided to all participants in a comfortable environment within the clinic. The researcher ensured confidentiality, anonymity, and voluntary participation throughout the data collection process. Completed forms were collected immediately and checked for completeness before entry into the dataset. Data were analyzed using SPSS. Ethical approval was obtained from the Institutional Ethics Committee. Informed written consent was obtained from all participants. Confidentiality and anonymity were maintained. Participants were assured that refusal to participate would not affect their care or future services.

RESULTS AND DISCUSSION

Discussion

The present study assessed satisfaction with nurse-led antenatal clinic services and the adequacy of information provided to antenatal mothers attending a tertiary care hospital. The findings demonstrate exceptionally high levels of satisfaction with nurse led antenatal clinic (NLC) and a strong perception of adequate information. These findings reinforce the growing evidence that nurse-led models of antenatal

care contribute significantly to women's positive maternity experiences, clinical understanding, and overall preparedness.

High Levels of Satisfaction with Nurse-Led Care

All items measuring satisfaction scored between 4.76 and 4.91, indicating that respondents overwhelmingly agreed that the nurse led clinic demonstrated professionalism, compassion, and skill. The highest-rated item "*Overall, I was satisfied with my visit with the nurse*" (Mean = 4.91) suggests extremely positive perceptions of the service. This aligns with prior research showing that women rate nurse-led antenatal services highly in terms of interpersonal communication, emotional support and individualized care (Haines *et al*, 2020⁷, Shogren and Hurst, 2021⁸). Core interpersonal attributes such as listening, respect, trust and approachability were also highly endorsed (Mean range = 4.82-4.89). Previous studies similarly confirm that respectful communication and shared decision-making are central contributors to maternal satisfaction in nurse-led models (Renfrew *et al*, 2014⁹, WHO, 2016¹⁰). The present findings strengthen this evidence by demonstrating consistent agreement across all participants, as reflected by the low standard deviations (0.29-0.54).

Items related to nurses' skill and competence also showed strong agreement (Mean = 4.78-4.85). Participants expressed trust in the nurse practitioner and confidence in her knowledge and clinical ability. Studies globally have found that nurse practitioners deliver care comparable to or better than physician-led models in terms of accuracy, patient safety, and communication clarity (Maier *et al*, 2019¹¹, Lowe *et al*, 2022¹²). The present study further validates that nurses are viewed as capable, dependable, and central to ensuring quality antenatal care. The only relatively low scored item "*The NP was not rushed*" (Mean = 4.76) may reflect time constraints or high patient loads, a challenge documented in many Indian antenatal clinics (Saxena *et al*, 2021)¹³. However, the score remains strongly positive, indicating minimal dissatisfaction.

Adequacy of Antenatal Information Provided

The findings also revealed high perceived adequacy of health education, with mean scores ranging from

4.66 to 4.90 across information items. The highest-rated categories were exercise education (Mean = 4.90) and micronutrient counselling (Mean = 4.87). Consistent with this, earlier evidence shows that nurse-led teaching significantly improves antenatal women's knowledge on nutrition, supplementation and safe physical activity (Lee and Holroyd, 2019¹⁴, George *et al*, 2020¹⁵). Areas with relatively lower scores such as fetal screening (Mean = 4.66, SD = 0.71) and minor ailments in pregnancy (Mean = 4.69, SD = 0.62) suggest the need for more structured or standardized counseling. Research in South Asian settings has repeatedly identified fetal screening and minor ailment management as areas where women commonly report knowledge gaps (Nair *et al*, 2017¹⁶, Perumal *et al*, 2021¹⁷). These findings indicate opportunities for targeted educational reinforcement at the clinic level.

Correlation between satisfaction and information adequacy

The correlation analysis revealed a weak but statistically significant positive relationship between information adequacy and satisfaction ($r = 0.22$, $p = .006$). This suggests that although satisfaction was universally high, women who received clearer information tended to express slightly higher satisfaction with NLC services. Previous studies have similarly shown that patient satisfaction is strongly influenced by the quality of communication and information provision (Kabakian-Khasholian *et al*, 2020¹⁸, Donabedian, 2005¹⁹). The high satisfaction scores in the current study can therefore be partly attributed to the comprehensive, consistent patient education provided at NLC.

Comparison with existing literature

The overall findings strongly resonate with global literature supporting the effectiveness of nurse-led antenatal models.

Studies across Australia, the United States and India have consistently reported that nurse-led or midwife-led antenatal care improves maternal satisfaction, reduces anxiety and enhances continuity of care (Sandall *et al*, 2016²⁰, Sharma and Smith, 2022²¹). High satisfaction levels in this study also reflect the values emphasized in global guidelines, which highlight respectful maternity care, privacy and effective communication as key indicators of quality (WHO, 2016)¹⁰.

Furthermore, the strong information adequacy scores align with studies showing that women educated by trained nurse practitioners have better knowledge about pregnancy, warning signs, nutrition and birth preparedness (Thiruvengadam and Samuel, 2021²², Olayemi *et al*, 2019²³). The consistent scoring patterns in the present study reaffirm the importance of nurse-led clinics in delivering accessible, patient-centered antenatal education.

Implications for Practice

The findings suggest the following practical implications:

Nurse-led antenatal clinics provide high-quality, patient-centered care and can be expanded within tertiary settings

Structured reinforcement of specific topics, including fetal screening and minor ailments, could enhance uniformity of health education.

Strengthening staffing or scheduling adjustments may help reduce perceptions of rushed consultations. Training programs should continue emphasizing communication skills, counseling quality, and clinical competence-areas strongly valued by the patients.

Table No.1: Distribution of samples according to demographic and clinical variables (N=154)

S.No	Variable	Category	Frequency (n)	Percentage (%)
1	Age (years)	Mean \pm SD	24.59 \pm 3.59	—
2	Education	Secondary	12	7.8
		Higher Secondary	28	18.2
		Graduate	87	56.5
		Postgraduate	27	17.5

3	Religion	Hindu	124	80.5
		Christian	1	0.6
		Muslim	29	18.8
4	Locality	Urban	53	34.4
		Rural	101	65.6
5	Occupation	Housewife	132	85.7
		Labourer	7	4.5
		Professional	15	9.7
6	Type of Family	Joint	127	82.5
		Nuclear	27	17.5
7	Gravida and Parity	Primigravida	79	51.3
		Para 1	57	37.0
		Para 2	17	11.0
		Para 3	1	0.6
8	Previous Experience with NLC	Yes	40	26.0
		No	114	74.0

Inference: The mean age of the participants was 24.59 ± 3.59 years. Most of them were graduates (56.5%). Most participants belonged to the Hindu religion (80.5%) and resided in rural areas (65.6%). A large proportion were housewives (85.7%). About 82.5% lived in joint families, more than half were primigravida (51.3%). Notably, 74% of participants reported no previous experience with NLC

Table No.2: Satisfaction of antenatal women with Nurse Led Antenatal Clinic (N = 154)

S.No	Item	Mean	SD
1	Overall, I was satisfied with my visit with the nurse	4.91	0.29
2	My NP was courteous towards me	4.79	0.42
3	She maintained confidentiality	4.81	0.43
4	The NP was not rushed	4.76	0.54
5	I was made comfortable during my visit	4.85	0.47
6	My NP is a skilled health care provider	4.78	0.50
7	NP discusses methods other than medication to treat my problem	4.81	0.43
8	I am satisfied with how my NP treats me	4.86	0.34
9	I am satisfied with the amount of time she spends with me	4.82	0.39
10	My NP is caring	4.84	0.39
11	My NP is knowledgeable about my health problem	4.85	0.38
12	I trust my NP	4.84	0.40
13	The NP listens to what I have to say	4.87	0.34
14	The NP is interested in my health concerns	4.82	0.40
15	The NP respects me	4.89	0.33
16	I can easily talk to my NP about my health concerns	4.87	0.37
17	I was clearly explained about follow-up	4.84	0.37
18	I understood what my NP taught me	4.85	0.38
19	I was made comfortable during examination	4.77	0.52
20	Privacy was given during examination	4.81	0.39

Inference: The above table indicate overall high levels of satisfaction among the participants. All item means ranged between 4.76 and 4.91 on a 5-point Likert scale.

Table No.3: Adequacy of Information among antenatal women attending Nurse Led Antenatal Clinic (N = 154)

S.No	Item	Mean	SD
1	Explained about regular antenatal checkups	4.84	0.36
2	Explained about minor ailments and its remedies	4.69	0.62
3	Explained about diet during pregnancy	4.83	0.42
4	Explained about immunization in pregnancy	4.76	0.54
5	Explained about prevention of infection	4.80	0.53
6	Explained on warning signs during pregnancy	4.81	0.47
7	Explained on importance of taking folic acid and iron	4.87	0.41
8	Explained on fetal screening (Down's screening, morphology scan)	4.66	0.71
9	Explained about exercises during pregnancy	4.90	0.31
10	Explained about signs of true labor	4.76	0.63
Information on antenatal care management (Total)		47.78	4.06

Inference: The above table shows the mean scores for all items range from 4.66 to 4.90, indicating that antenatal women strongly agreed that the nurse provided adequate information across all areas of antenatal care. The overall total score is Mean = 47.78.

Table No.4: Relationship between Satisfaction and adequacy of Information at NLC (N = 154)

S.No	Measure	Pearson's r	p-value
1	Satisfaction and Adequacy of Information Score	0.22	0.006

Inference: The above table infers that there is a weak positive correlation between Satisfaction and adequacy of information among antenatal women who attended Nurse Led Antenatal Clinic

CONCLUSION

The study demonstrates that nurse-led antenatal clinics are highly effective in providing patient-centered care, delivering high-quality health information and fostering excellent satisfaction among antenatal mothers. The significant correlation between information adequacy and satisfaction highlights the importance of comprehensive communication in enhancing women's antenatal care experiences. Strengthening and expanding nurse-led antenatal models may therefore contribute substantially to improving maternal health outcomes.

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CONFLICT OF INTEREST

We declare that we have no conflict of interest.

BIBLIOGRAPHY

1. World Health Organization. WHO recommendations on antenatal care for a positive pregnancy experience, *WHO Press*, 2020.
2. Ministry of Health and Family Welfare. RMNCH+A strategic approach: For reproductive, maternal, newborn, child and adolescent health in India, *Government of India*, 2021.
3. Hunter B, Magill-Cuerden J, McCourt C. A nurse-led model of antenatal care: Women's experiences and outcomes, *Midwifery*, 75, 2019, 36-44.
4. Akhter S, Begum K, Khatun F. Effectiveness of nurse-led antenatal education on maternal knowledge and preparedness, *International Journal of Nursing Studies*, 127, 2022, 104-118.
5. Turan J M, Hatcher A M, Romito P. Maternal satisfaction with antenatal care services: Determinants and outcomes, *Women and Health*, 59(5), 2019, 456-470.

6. Downe S, Finlayson K, Tredwell R, Metin G. Communication barriers in antenatal care: A systematic review, *BMC Pregnancy and Childbirth*, 19(1), 2019, 1-12.
7. Haines H M, Baker J, Marshall D. Women's experiences of midwife-led antenatal care: A systematic review, *Women and Birth*, 33(3), 2020, e247-e255.
8. Shogren M, Hurst H. Patient satisfaction in nurse practitioner-led clinics, *Journal of the American Association of Nurse Practitioners*, 33(6), 2021, 431-438.
9. Renfrew M J, McFadden A, Bastos M H. Midwife-led continuity models versus other care models for childbearing women, *Cochrane Database of Systematic Reviews*, 2014(9), 2014, CD004667.
10. World Health Organization. Standards for improving quality of maternal and newborn care in health facilities, *WHO Press*, 2016.
11. Maier C B, Aiken L H, Busse R. Nurse practitioner roles in improving healthcare quality, *Health Policy*, 123(11), 2019, 1105-1112.
12. Lowe G, Plummer V, Boyd L. A comparison of patient outcomes between nurse practitioners and physicians in primary care, *Journal of Advanced Nursing*, 78(4), 2022, 1124-1135.
13. Saxena V, Puri P, Mahal R. Barriers to quality antenatal care in Indian public hospitals, *Journal of Family Medicine and Primary Care*, 10(8), 2021, 2851-2857.
14. Lee A, Holroyd E. The effect of nurse-led antenatal education on maternal health literacy, *Journal of Clinical Nursing*, 28(17-18), 2019, 3106-3114.
15. George A, Jacob R, Alphonse A. Effectiveness of antenatal education programs on maternal knowledge and pregnancy outcomes, *International Journal of Nursing Studies*, 112, 2020, 103-110.
16. Nair M, Yoshida S, Lambrechts T, Boschi-Pinto C, Bose K. Antenatal care content and maternal knowledge in low-income settings, *PLoS ONE*, 12(1), 2017, e0171231.
17. Perumal V, Kulasekaran D, Rajendran A K. Knowledge gaps in fetal screening among antenatal mothers, *Indian Journal of Obstetrics and Gynecology*, 9(2), 2021, 44-50.
18. Kabakian-Khasholian T, Kaddour A, DeJong J. The impact of patient-provider communication on maternal satisfaction during antenatal care, *BMC Pregnancy and Childbirth*, 20, 2020, 383.
19. Donabedian A. Evaluating the quality of medical care, *The Milbank Quarterly*, 83(4), 2005, 691-729.
20. Sandall J, Soltani H, Gates S, Shennan A, Devane D. Midwife-led continuity of care models compared with other models of care for women, *The Cochrane Database of Systematic Reviews*, 2016(4), 2016, CD004667.
21. Sharma R, Smith J. Evaluating nurse-led antenatal clinics: A systematic review, *Maternal and Child Health Journal*, 26(2), 2022, 223-234.
22. Arun, Thiruvengadam. Justice versus judiciary: Justice enthroned or Entangled in India? *Socio-Legal Review*, 17(1), 2021, 92.
23. Olayemi O, Bello F A, Aimakhu C O. Impact of antenatal health education on pregnancy knowledge among Nigerian women, *African Journal of Reproductive Health*, 23(1), 2019, 89-98.

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