Evaluation of Impact of Patient Medication Counseling in Socio-Economically Deprived Anemic Pregnant Women

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Abstract

This investigation aims to study the impact of patient medication counseling in socio-economically deprived anemic pregnant women. Anaemia in pregnancy is common and thought to contribute significantly to maternal mortality and morbidity. A qualitative study has been carried out with 122 patients. Out of this 61 patients were assigned to the counseled (intervention) group and 61 patients to the usual care group (control). Medication knowledge improvement was found to be statistically significant in counseled group. Also, compliance behavior by self assessment showed a positive change and co relation in medication taking behaviour of the patients in counseled group.

Key Words : Anaemia, Maternal Mortality and Morbidity, Compliance

1. Introduction:

Anaemia is the late manifestation of deficiency of nutrient(s) needed for haemoglobin synthesis. Most of the anaemias are due to inadequate supply of nutrients like iron, folic acid , vitamin B_{12}, proteins, amino acids, vitamins A, C and other vitamins of B-complex group *i.e.*, niacin and pantothenic acid are also involved in the maintenance of haemoglobin level. In women, anaemia may become the underlying cause of maternal mortality and perinatal mortality. Anaemia also results in an increased risk of premature delivery and low birth weights. Iron deficiency in late pregnancy results in poor fetal iron stores.Though rapid developments in science and technology have led to easy understanding of etiology and pathophysiological basis of various diseases and development of new molecules, many times clinicians fail to achieve the desired therapeutic goals. One of the major reasons for this can be the patient noncompliance or partial compliance towards the prescribed treatment. The pharmacist has a particularly valuable opportunity to encourage compliance since his advice accompanies the actual dispensing of the medication, and he usually is the last health professional to see the patient prior to the time the medication is to be used. A significant association of anaemia with socio-economic status of women has been identified. The present study was therefore planned to study the impact of patient medication counseling in socio-economically deprived anaemic pregnant women. The study was aimed to reduce the complications of anaemia in pregnancy by increasing the haemoglobin concentration of anaemic pregnant women via pharmacist follow up.

2. Materials and Methods

The following information was collected on a pretested proforma:

Socio-demographic particulars of a household: - Age at marriage, literacy status and occupation of woman and her husband.

Reproductive behaviour: - Age, sex, number of live children and inter-pregnancy interval were recorded. Any pregnancy loss with birth order and gestational age was noted (fetal loss). Current pregnancy details were also recorded.

Antenatal care (ANC): - ANC availability, frequency of check ups if conducted in first trimester and if provided by the medical doctor, were recorded.

Height and weight: - Height and weight of the subjects were measured using anthropometric rod and platform weighing scale, which were standardized repeatedly.

***Sample size*:** - A total of 122 patients were enrolled in the study. Out of this 61 patients were assigned to the counseled (intervention) group and 61 patients to the usual care group (control).

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Study site: - Gynecology ward, Sait Hospital, Ooty, Tamil Nadu.

Participants: - Pregnant women attending gynecology clinic for booking visit.

Recruitment: - Chronological order of visit.

Enrollment of patients: - Two groups of patients were involved in the study counseled group and non-counseled group.

Inclusion criteria: - Counseled group women with a haemoglobin concentration below 11g/dl and who are in their second trimester.

Exclusion criteria: - Pregnant women in the first and third trimester. Pregnant women with any chronic disease.

Interview and data collection: - Collection of data contains details about their prescription, haemoglobin level, medication knowledge, compliance assessment and compliance survey score like 0, 1, 2 and 3 according to their response.

Haemoglobin (Hb) estimation: - Haemoglobin (Hb) estimation was done by cyanmethaemoglobin method, using the filter paper technique. Finger tip was cleaned with spirit, dried and clean puncture made with a sterilized disposable lancet. First drop of the free flowing blood was wiped off and second and if needed third drop was used for haemoglobin estimation. In this, an accurate volume (20 µl) of blood is drawn into the Hb pipette and immediately delivered on to dry Whatman No.1 filter paper (cut into 1.5 x 1.5 cm squares, and kept dry in an envelope). It is allowed to dry and the squares of paper are labeled. These squares are then dropped into 5 ml of Drabkin's solution (within 48-72 hr), and the blood is allowed to diffuse out of the filter paper into the diluent. The solution is then centrifuged. The supernatant was separated and its absorbance was read at 540 nm in a photoelectric colorimeter.

Patient counseling: - Counseling was on disease status, medication, nutrition and life style changes.

Intervention and follow up: - Patients assigned to pharmaceutical care management (intervention group) were provided with comprehensive and individualized education about the disease, its complication, recognition and treatment. Follow-ups are carried out during their successive appointments and questioned regarding their quality of life, medication usage and compliance with diet.

Statistical analysis: - The data was tabulated and analyzed using student's t-test and ANOVA. (Analysis of Variance)

3. Results and Discussion

Our attempt is to provide effective direct patient care services to socio economically deprived anemic pregnant women patient care services in a gynecology ambulatory clinic.

A total of 122 patients were enrolled in the study. Out of this 61 patients were assigned to the counseled (intervention) group and 61 patients to the usual care group (control).

We report here the effect of age (Table-1) and effect of gravida (Table-2) on haemoglobin concentration outcome in Counseled group. The results of haemoglobin estimation in both groups-counseled and controlled groups are summarized in Table-3.

From Table-1 it is evident that Pharmacist followup statistically significant improvement in haemoglobin levels. Similar results are seen in the case of effect of gravida on haemoglobin in counseled group. Results in Table-3 suggest the impact of counseling on the betterment of haemoglobin levels.

4. Conclusion

Medication Knowledge improvement was found to be statistically significant in counseled group. Change in haemoglobin concentration was set as a clinical outcome assessment in this study to better establish the impact of patient counseling services in an ambulatory set up. Increase in haemoglobin concentration was observed in the counseled group, which may be attributed to the Pharmacist-initiated patient counseling service.

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Table-1 Effect of age on haemoglobin concentration outcome in Counseled group

Age (In years)	Baseline	First Follow-up	Second Follow-up	Third Follow-up
<21	7.05±6.74	7.20±4.41	7.25±3.80	7.49±5.30
21-25	7.09±4.18	7.15±3.04	7.24 ±3.63	7.47±4.57
26-30	7.02±5.00	7.20±4.97	7.20±2.73	7.36±2.73
>30	7.25±3.53	7.25±3.53	7.25±3.53	7.50±0.00
ANOVA	P<0.10	P<0.10	P<0.10	P<0.10

Table-2 Effect of gravida on haemoglobin in counseled group

Gravida	Baseline	First follow-up	Second follow-up	Third Follow-up
1	7.15±4.14	7.19±3.61	7.31±3.59	9.25±1.16
2	6.70 ±7.52	6.91±4.17	7.13±3.77	7.30±4.47
3	7.25±3.5	7.25±3.53	7.25±3.53	7.50±0.00
ANOVA	P<0.10	P<0.10	P<0.10	---

Table -3 Haemoglobin concentration outcome-Counseled and Control Groups

Haemoglobin Conc. In percentage points	No. of patients in counseled group		No. of patients in usual group Baseline
	Base line	Final	
6-6.9	2 (3.27%)	-	-
7-7.9	1 (1.3%)	-	-
8-8.9	2 (3.27%)	-	-
9-9.9	3 (4.91%)	-	-
10-10.9	30 (49.1%)	21 (34.4%)	-
11-11-9	23 (37.7%)	28 (45.9%)	-
12-12.9	-	12 (19.6%)	44 (72.13%)
13-13.9	-	-	17 (27.86%)

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