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MATERNAL ANEMIA AND MEDICATION TRENDS: A DRUG UTILIZATION STUDY FROM A TEACHING HOSPITAL PERSPECTIVE

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ABSTRACT

Context: Pregnancy-related anaemia is a leading cause of maternal and perinatal death and morbidity, making it an important issue for public health worldwide, but especially in underdeveloped nations. To improve maternal outcomes, pharmaceutical intervention is essential, especially iron and folic acid supplements. The appropriateness, logic, and consistency of therapeutic practices with published standards may be evaluated by analysing medication use trends in pregnant women with anaemia.

Purpose: This study aimed to examine how a tertiary care teaching hospital prescribed and used drugs to treat anaemia in pregnant women.

Approach: The obstetrics and gynaecology department of a tertiary care teaching hospital undertook a prospective observational study over a set length of time. Information was gathered from prenatal prescriptions about the various anti-anemic drugs that were given to pregnant patients, including folic acid, oral and parenteral iron preparations, and how often they were given them.

Findings: Oral iron formulations were favoured for mild to moderate cases, and the most generally recommended therapy was iron and folic acid supplements. Iron treatment provided intravenously and blood transfusions were sometimes used to treat severe anaemia. To improve adherence, fixed-dose combinations were often used. While some diversity in dose and formulation preferences was noted, the majority of prescriptions followed national criteria.

I. INTRODUCTION

Particularly in nations with low or medium incomes, maternal anaemia is a major public health concern. Nearly 40% of pregnant women worldwide suffer from anaemia, which is defined by the World Health Organisation (WHO) as a haemoglobin level below 11 g/dL. Iron deficiency anaemia is the most frequent kind, and its prevalence in India is quite high. Numerous consequences, including as premature delivery, low birth weight, neonatal death, and elevated maternal morbidity, are linked to this syndrome.

Timely pharmaceutical intervention, such as the use of iron, folic acid, and other dietary supplements, and an early diagnosis are the cornerstones of effective care of anaemia during pregnancy. Iron administered intravenously or blood transfusions may be necessary in more serious instances. In addition to restoring normal haemoglobin levels, these procedures aim to improve the health of the mother and her unborn child.

Prescription procedures might differ due to factors such as physician choice, institutional norms, patient tolerance, and medication availability, even if there are national and international treatment standards available. Critical insights regarding drug rationality, gaps

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in guideline adherence, and opportunities for therapeutic improvement may be gained by examining drug use trends in this setting.

The purpose of this research is to track and examine patterns in the medication use of pregnant women with anaemia at a tertiary care teaching hospital. Evaluating the appropriateness of existing treatment methods and supporting efforts to optimise anaemia care throughout pregnancy, this study intends to detail the kinds of drugs administered, their doses, frequency, and combinations.

II. METHODOLOGY

3.1 Research Plan

Pregnant women with anaemia who visited the prenatal outpatient department of a tertiary care teaching hospital were the subjects of this prospective observational research that aimed to assess their medication use trends.

3.2 Environment and Time of Study

From three to six months, depending on patient availability and sample size, the research was conducted at the Obstetrics and Gynaecology Department of a tertiary care teaching hospital.

3.3 Population Under Study

Women who attended the prenatal clinic throughout their pregnancies and were diagnosed with anaemia (defined as haemoglobin levels below 11 g/dL according to WHO guidelines) were included in the research.

3.4 Requirements for Inclusion

- Women experiencing anaemia during pregnancy
- The whole pregnancy
- Participation and informed consent are prerequisites.

3.5 Grounds for Rejection

- Pregnant women whose anaemia is not due to dietary factors (such as thalassaemia or haemolytic anaemia)
- Extremely sick individuals
- Participants who were either reluctant or unable to provide their informed consent

3.6 Methods for Collecting Data

- A standardised pro forma was used for data collection, which included:
- Demographic information on the patient, including their age, gestational age, and parity
- Blood oxygen saturation
- Classification and degree of anaemia
- Medications given by a doctor (herbal name, dosage, frequency, administration method)
- Treatment time required
- Treatment modifications or side consequences
- The following criteria were used to assess the prescriptions:
- Suitability in light of national and international treatment standards
- Medications used in fixed-dose combinations
- Reasoning for medicine selection

3.7: Moral Issues

- The IEC (Institutional Ethics Committee) gave its stamp of approval.
- Prior to being included in the research, all participants were asked to provide their informed permission.
- The anonymity of the patients was maintained at all times.

3.8 Analysing the Data

Descriptive statistical approaches were used to generate and analyse the acquired data:

Categorical variables were represented using percentages and frequencies.

The continuous variables were given a mean along with their standard deviation (SD).

Within the framework of clinical recommendations and prior research, the results were analysed.

III. RESULTS

The Department of Gynaecology received 300 prescriptions from pregnant women who were anaemic, including those who were inpatient and those who were outpatients. Characteristics of Patients: Patient allocation according to the three trimesters: The following percentages are represented in the three trimesters of pregnancy: 78(26%), 171(57%), and 51 (17%) out of a total of 300 patients (Table 1):

Statistical analysis of patient enrolment by gestational month: In Table 2, we can see that only 2% of patients (N=5) were one month along in their pregnancies, 5% were two months along, 20% were three months along, 23% were four months along, 21% were five months along, 13% were thirteen months along, 9% were twenty-seven months along, 5% were fifteen months along, and 3% were nine months along (N=9).

Patient allocation according to age: In the group of patients aged 18 and under, 2% (N=5) with an average age of 17.8 ± 0.4 years had anaemia. In the group of patients aged 19 to 23, the percentage of patients with anaemia was 61% (N=184) with an average age of 21.04 ± 1.26 years. Age groups 24-28 years (N=94, or 31% of the total) had the following pattern: 29-33 years (N=14, or 5% of the total) had the next-best mean age of 30.36 ± 1.04, while 34-38 years (N=3, or 1% of the total) had the oldest mean age of 32.67 ± 1.70. Table 3.

Allocation of patients according to haemoglobin standards: In terms of seriousness, there are primarily four distinct Hb criteria. Classification revealed that 10% of patients (N=29) had a slight fall in haemoglobin level, 70% (N=209) a moderate decline, 6% (N=19) a severe decrease, and 14% (N=43) a normal level. A moderate drop in Hb level was seen in the largest number of patients out of 300 (Table: 4).

There are three distinct phases of pregnancy, each with its own unique kind of anaemia. Among the 300 individuals, 99 have sickle cell anaemia and 3 have beta thalassaemia. Out of the 99 individuals analysed, 38 (56% of the total) had sickle cell anaemia during the first trimester, 55 (56% of the total) during the second trimester, and only 6 (6%) during the third trimester. Betathalassemia affects a single sufferer every trimester.

The first trimester included 78 individuals with various types of haemoglobin levels. Out of the 78 individuals analysed, 14 (18%) saw a mild drop in haemoglobin levels, 47 (60%) a moderate drop, 5 (6%) a severe drop, and 12 (15%) a normal drop. There were a total of 171 patients after the first trimester. Only thirteen individuals (about eight percent) out of the total 171 had a moderate drop in haemoglobin level. A moderate fall in Hb level was seen in 120 patients (70%), a severe decrease in 10 patients (6%), and a normal decline in 28 patients (16%). A total of fifty-one individuals were included in the third trimester. Out of the 51 individuals analysed, 2 (4%) had a modest drop in haemoglobin level. Forty-two patients, or 82%, have a mild drop in haemoglobin level, four patients, or 8%, have a severe drop, and three patients, or 6%, have a normal drop. Across all three trimesters, the decline in haemoglobin level was more mild.

Distribution of patients according to the form of anaemia: A total of 300 patients were evaluated;

of these, 58.67% (N=176) had iron deficiency anaemia, 33.00% (N=99) had sickle cell anaemia, 6.67% (N=20) had folate deficiency anaemia, 1.00% (N=3) had thalassaemia, 0.33% (N=1) had haemolytic anaemia, and 0.33% (N=1) had vitamin B12 deficiency anaemia. Haemoglobin Level Improvement: We compared the current and previous levels of haemoglobin in 29 patients. In all, fifteen patients had haemoglobin levels that improved by 0.1-4 and fourteen patients had haemoglobin levels that declined by 0.2-1. 2.

Pattern of Drug Prescribing: Medicine prescribed to several patients: The following medications were most often prescribed to patients with anaemia: Tab. Vitamin C (21.22%) (N=243), Tab. Multi-Vitamin B Complex (20.35%) (N=233), Tab. Calcium (19.56%) (N=224), Tab. Tonofolic XT (7.16%) (N=82), Tab. Iron (7.07%) (N=81), Tab. Folic Acid (6.11%) (N=70), Tab. Sodamint (3.84%) (N=44), Tab. Zincovit (3.76%) (N=43), Tab. Feb XT (3.32%) (N=38), Tab. Albendazole (2.71%) (N=31), Cap. Austin (1.92%) (N=22), and Tab. Tonofolic DS (1.22%) (N=14). Only 2 patients were provided Inj. Iron Sucrose, Tab. Doxinate, and Tab. Rantac, whereas 1 patient was prescribed more than 14 medicines (Table: 9).

There were fourteen different medications that were used to alleviate sickle cell anaemia. The most often recommended medicine was vitamin C (19.44%), followed by calcium (16.67%), multi-vitamin B complex (16.39%), folic acid (9.72%), iron (9.17%), tonofolic XT (3.33%), and a total of 70 tablets. There was no difference in the number of patients administered Tab. Zincovit (11.39%, N=41) and Tab. Sodamint (11.39%, N=41). In this study, three patients were given Tonofolic DS tablets, two were given Albendazole tablets, and one patient was given Cap. Autrin, Inj. TT, Tab. FDSON MP, and Tab. Doxinate. Medications used to treat iron deficiency anaemia: Of all the medications prescribed to patients with iron deficiency anaemia, the most common ones were tab. MVBC (22.46%; N=170), tab. vitamin C (22.32%; N=169), and tab. calcium+ (22.46%; N=170). Then came tab. tonofolic xt (9.11%), tab. iron (6.21%; N=47), tab. febac xt (5.02%; N=38), tab. albendazole (3.83%; N=29), tab. cap. autrin (2.64%), tab. folic acid (2.11%; N=16), tab. tonofolic DS (1.45%; N=11). The following medications are prescribed twice: Inj. Iron Sucrose, Tab. Zincovit, Tab. Lupiheme, Tab. Metro, Tab. Option, Tab. Rantac, Tab. Azoran, Tab. Dolo, Tab. Doxinate, Syp. Aristozyme, Iron Sucrose, Inj. Vitcofol + Iron Sucrose, Inj. Sucrose, Inj. RL with DNS, Inj. Rantac, and Inj. Emset. Folic acid tablets and rantac are the only two medications currently approved to treat folate deficient anaemia. Twenty patients (or 95% of the total) were given folic acid tablets, whereas just one patient (or 5% of the total) was given rantac tablets. A total of six medications were typically administered for the treatment of sickle cell anaemia with beta thalassaemia. Two patients were given the tabs Sodamint (22.22%), Multi-Vitamin B Complex (22.22%), and Vitamin C (22.22%). Just one patient was given Tab. Ca+ (11.11%), Tab. Tonofolic XT (11.11%), and Tab. Zincovit (11.11%).

Category A, Category B, Category C, and Category D were the four distinct drug risk classifications. For a total of 386 patients, 58.19% were given Category A medication, 7.89% were given Category B, 58.19% were given Category C, and 0.088% were given Category D. The eight medications listed in "Category A" were all prescribed by doctors. Out of all the medications listed, the most common ones given were Tab. MVBC at roughly 60.36 percent (n=233), Tab. Folic acid at around 18.13 percent (n=70), Tab. Zincovit at 11.1 percent (n=43), Cap. Autrin at 5.70 percent

(n=22), Tab. Tonofolic DS at 3.6 percent (n=14), Tab. Doxinate at 0.52% (n=2), and Tab. FDSON MP and Inj. Emset at 0.26% (n=1). "Category B" had seven different medications. When compared to medications that were administered just once, such as Tab. Dolo, Tab. Metro, Tab. Lupiheme, and Inj. Sucrose, the most often prescribed pharmaceuticals were Tab. Iron (90.00%, N=81), Inj. Iron Sucrose 3.33%, N=3, and Tab. Rantac 2.22%, N=2. The eight medications listed in "Category C" were all prescribed by doctors. The following drugs were prescribed at comparable rates: Tab. Albendazole 4.67% (N=31), Tab. Tonofolic XT 12.35% (N=82), Tab. Sodamint 6.63% (N=44), Tab. Febac XT 5.72% (N=38), and Tab. Ca+ 33.73% (N=224). The remaining two drugs, Syp. Aristozyme and Inj. RL with DNS, were prescribed at the same rate of 0.15% (N=1). The "Category D" prescription only included one medication. One patient only received the prescription for Tab. Azoran.

Table 1. Number of patients according to trimester

Trimester	Number of Patients (%)
1st	78 (26%)
2nd	171 (57%)
3rd	51 (17%)
Grand Total	300 (100%)

Table 2. Number of patients according to pregnancy months

Months	Number of Patients (%)
1	5 (2%)
2	15 (5%)
3	59 (20%)
4	70 (23%)
5	62 (21%)
6	38 (13%)
7	27 (9%)
8	15 (5%)
9	9 (3%)
Grand Total	300 (100%)

Table 3. Number of patients according to age group

Age group	Number of Patients (%)
<=18	5 (2%)
(Mean age ± SD)	(17.8 ± 0.4)
19-23	184 (61%)
(Mean age ± SD)	(21.04 ± 1.26)
24-28	94 (31%)
(Mean age ± SD)	(25.26 ± 1.22)
29-33	14 (5%)
(Mean age ± SD)	(30.36 ± 1.04)
34-38	3 (1%)
(Mean age ± SD)	(32.67 ± 1.70)
Grand Total	300 (100%)
(Mean age ± SD)	(22.89 ± 3.17)

Table 4. Number of patients according to hemoglobin criteria

Hb Criteria	Number of Patients	Percentage (%)
Mild	29	10 %
Moderate	209	70 %
Severe	19	6 %
Normal	43	14 %
Grand Total	300	100 %

Table 5. Number of patients in a different type of anemia according to trimesters

No. of patients	Sickle cell anemia	Beta-thalassemia	Iron deficiency	Folate deficiency
1st trimester	38 (38%)	1 (33%)	24 (13.64%)	15 (75%)
2nd trimester	55 (56%)	1 (33%)	109 (61.93%)	4 (20%)
3rd trimester	6 (6%)	1 (33%)	43 (24.43%)	1 (5%)
Grand Total	99 (100%)	3 (100%)	176 (100%)	20 (100%)

Table 6. Total number of anemic patients according to Hb level in different trimesters

Hb Criteria	1st Trimester	2nd trimester	3rd Trimester
Mild	14 (18%)	13 (8%)	2 (4%)
Moderate	47 (60%)	120 (70%)	42 (82%)
Severe	5 (6%)	10 (6%)	4 (8%)
Normal	12 (15%)	28 (16%)	3 (6%)
Grand Total	78 (100%)	171 (100%)	51 (100%)

Table 7. Total number of patients according to a different type of anemia

Condition	Number of Patients
Patient having sickle cell anemia	99 (33.00%)
Patient having folate deficiency anemia	20 (6.67%)
Patient having vitamin B12 deficiency anemia	1 (0.33%)
Patient having hemolytic anemia	1 (0.33%)
Patient having iron deficiency anemia	176 (58.67%)
Patients having thalassemia	3 (1.00%)
Grand Total	300 (100%)

Table 8. Changes in Haemoglobin level

Hb Level	Total Number of Patients	Range	Percentage (%)
Increased	15	0.1-4	51.72
Decreased	14	0.2-1.2	48.28
Total	**29**		**100 %**

Table 9. Drug used in several prescriptions

Drugs (Generic name)	The total number of drugs prescribed
T. Vit C (Ascorbic acid)	243 (21.22%)
T. MVBC	233 (20.35%)
T. Ca + (Calcium carbonate + Vitamin D3)	224 (19.56%)
T. Tonofolic XT (Ferrous ascorbate + Folic acid + Zn sulfate monohydrate)	82 (7.16%)
T. Iron (Elemental iron)	81 (7.07%)
T. Folic Acid (Folic acid)	70 (6.11%)
T. Sodamint (Sodium bicarbonate)	44 (3.84%)
T. Zincovit (Vitamin C, B3, E, B5, B2, B1, B6, A, B12, D3 + Folic acid + Biotin)	43 (3.76%)
T. Febac XT (Ferrous ascorbate + Folic acid)	38 (3.32%)
T. Albendazole (Albendazole)	31 (2.71%)
Cap. Autrin (Vitamin B12 + Ferrous Fumarate + Folic acid)	22 (1.92%)
T. Tonofolic DS (Vit. B12 + Ferrous Fumarate + Folic acid)	14 (1.22%)
T. Rantac (Ranitidine)	2 (0.17%)

Drugs (Generic name)	The total number of drugs prescribed
T. Doxinate (Doxylamine succinate + Vit. B6)	2 (0.17%)
Inj. Iron Sucrose (Iron Sucrose)	2 (0.17%)
T. Lupiferne (Elemental iron)	1 (0.09%)
T. Metro (Metronidazole)	1 (0.09%)
T. Option (Levonogestrel)	1 (0.09%)
T. Azoran (Azathioprine)	1 (0.09%)
T. Dolo (Acetaminophen)	1 (0.09%)
T. FDSION MP (Folic acid + Pyridoxine Hydrochloride + Methylcobalamin)	1 (0.09%)
Syp. Aristozyme (Diastase + Pepsin)	1 (0.09%)
Iron Sucrose (Iron Sucrose)	1 (0.09%)
Inj. Vitcofol + Iron Sucrose (Nicotinamide + Folic acid + Cyanocobalamin)	1 (0.09%)
Inj. TT (Tetanus toxide)	1 (0.09%)
Inj. Sucrose (Sucrose)	1 (0.09%)
Inj. RL with DNS (Ringer lactate + Dextrose + Sodium chloride)	1 (0.09%)
Inj. Rantac (Ranitidine)	1 (0.09%)
Inj. Emset (Ondansetron)	1 (0.09%)
Grand Total	**1145 (100%)**

The financial strain on pregnant women with anaemia: Three patients out of 300 have not received medication prescriptions due to blood transfusions. Treatment cost an average of 920.68Rs. per month for 297 patients. The price ranged from 16.18Rs. per month at the lowest end to 1809Rs. at the maximum. Of the total patients surveyed, 19.87% paid less than 500Rs, 64.31% paid between 501 and 1000Rs, 12.12% paid between 1001 and 1500Rs, and about 3.70% paid between 1501 and 2000Rs.

Merely insignificant interactions between three drugs were identified. The majority of patients (96.23%; N=153) took ascorbic acid and folic acid. 1.89% (N=3) of patients took the second one, which had calcium carbonate and iron, and 1.89% (N=3) took the third, which included iron + sodium bicarbonate. Concerning side effects, although no major adverse drug reactions were documented, a single patient out of seventy had abdominal discomfort as a result of folic acid. Substance administration in accordance with World Health Organisation guidelines: The World Health Organisation recommends 120 milligrammes of iron and 0.4 milligrammes of folic acid per day. Only Cap. Autrin and T. Tonofolic DS met these requirements in our investigation. Just 36 individuals (Table:21) received this conventional therapy.

IV. DISCUSSION

We found 300 pregnant women who were anaemic, indicating that our research only contained female participants. There were 336 female patients in the last trial, so this is quite comparable. Iron deficiency anaemia was found in 58.5% of the 336 patients, mild anaemia in 19%, and severe anaemia in 7.4% [13]. We followed the FOGSI standards and chose anaemic pregnant women with haemoglobin levels less than 9 gm/dl, as was shown in previous research with 100 anaemic pregnant women [14]. In Indian culture, women have a lot on their plates between caring for families and children, managing the home, and eating badly, all of which may lead to anaemia. Consistent with a prior study that also found that 57 out of a total of 171 female patients(57%) experienced anaemia during the second trimester, our results show that this is the time of pregnancy when the condition is most common [15]. We found that the incidence of anaemia was greatest in the fourth trimester of pregnancy (23% of patients), compared to other months. In the first trimester of pregnancy, the incidence was a mere 3%. When looking at the distribution of anaemia by age, we found that 61% of the population, or 184 women, were between the ages of 19 and 23, 31% of the population, or 94 women, and 5% of the population, or 14 women, were between the ages of 29 and 33, with the lowest levels of anaemia. Another research indicated that all age-related statistics were consistent with one another, with the greatest prevalence of anaemia among women aged 20–25 (63%), followed by those aged 26–30 (2.4% anaemic), and those aged 31–35 (5.6% anaemic) [16]. Our research found that 10% of women had a mild case of anaemia

based on haemoglobin levels, 70% had a moderate case, and 6% had a severe case. Genetic disorders such as sickle cell anaemia, thalassaemia, and certain autoimmune illnesses may lead to an increased breakdown of red blood cells. Thalassaemia was equally distributed among patients throughout each trimester, while sickle cell anaemia was seen in the largest proportion of patients in the second trimester.

The study also looked at haemoglobin levels according to trimester, and the results showed that out of 78 patients in the first trimester, the majority (47) had moderate type of anaemia; out of 171 patients in the second trimester, the same number (120%), had moderate type of anaemia; and out of 51 patients in the third trimester, 4 had moderate type of anaemia. Consistent with a prior research that found 58% of pregnant women to be iron deficient anaemic, with 40% experiencing moderate anaemia, we found 58.67% of pregnant women to be anaemic [17]. We observed that 69 prescriptions had a ferrous sulfate-folic acid combination medication. This is in line with a previous research that also indicated that 56 prescriptions contained ferrous sulphate and that pregnant anaemic female patients were given this combination [17]. Yet, hookworm is a strong indicator of iron deficient anaemia. Researchers have shown that iron deficiency anaemia may develop over time with even a modest hookworm infection, depending on the severity of the worm load and the amount of iron consumed by the body. The previous research found that 17.6% of women were provided albendazole pills, however this time only 31 out of 300 patients (2.71% of the total) were given this medication [15].

Iron deficiency affected 59% of women in our sample, sickle cell anaemia 33%, folic acid insufficiency 7%, thalassaemia 1%, vitamin B12 deficiency 0.33%, and haemolytic anaemia 0.33%. Two patients were provided tablets of vitamin C (22.22%), multi-vitamin B complex (22.22%), and sodamint (22.22%) as part of the sickle cell + beta-thalassemia treatment regimen. Just one patient was given Tab. Ca+ (11.11%), Tab. Tonofolic XT (11.11%), and Tab. Zincovit (11.11%).

Category of drug risk: While it's safe to advise against drug use during pregnancy, there's a possibility that the mother may use drugs while she's pregnant, which might have a negative impact on the unborn child. Using the US Food and Drug Administration's risk category-wise prescription categorisation system, which records the percentage of women taking medications from each class. Among the medications taken by the women in our research, the majority were from category C. This group includes medications that pose a danger to the developing baby, such as inj RL with DNS, tabs albendazole, sodamint, calcium, syrp aristozyme, tabs tonofolic XT, tabs febac XT, tabs vitamin C. Category A medications, which comprise 33.83% of the total, include folic acid tablets, doxinate tablets, injectable Emset, caps, Tonofolic DS, FDSON MP, MVBC, and Zincovit. Injectable iron sucrose, Tab. Rantac, Tab. Dolo, and Tab. Rantac make up 7.89% of the medications in category B. Iron tablets, sucrose injections, lupiheme tablets, and Azoran tablets (category D only, 0.088 percent). Pregnancy complications may occur if the mother takes the category D medicine. It should be mentioned that the medications were completely risk-free. Category B pharmaceuticals accounted for the vast majority of prescriptions, whereas category A drugs accounted for a smaller percentage, and category C drugs accounted for a negligible fraction, in contrast to our research [16].

Our study revealed that 31 individuals had helminth infections, which is different from prior research, and that iron deficiency was the leading cause of anaemia. Additionally, we

discovered that hookworm infection was substantially related with this condition (2.71%). On the other hand, the presence of helminth eggs or larvae would be very subtle, if not undetectable. The haemoglobin concentrations and iron status were greatly improved with only one course of anthelmintic treatment and iron-folate supplements [15]. It is worth noting that 70 patients in our research used folic acid pills as part of their therapy, which is in line with a prior study that found 76 women to have taken these tablets [18].

Overindulgence in drugs: The presence of a clinical chemist allows for the provision of high-quality therapy. As a result, clinical chemists are playing an increasingly important part in community health initiatives aimed at improving patient care. Included in the research were 300 individuals who were given a total of 1145 medications; as a result, the average number of prescriptions administered each patient was 3.82, ranging from 3 to 4 pharmaceuticals. Following the usual treatment guidelines provided by the WHO, which state that a daily dosage of 120 mg of iron plus 0.4 mg of folic acid should be supplied, we conducted our research in accordance with these recommendations. And it was detected in only 36 prescriptions of two drugs: Cap Autrin and Tab Tonofolic DS. A total of three mild drug-drug interactions were identified. Ascorbic acid and folic acid were the first, present in 96.23 percent of individuals. The outcome showed that folic acid levels may drop if ascorbic acid is taken at the same time as folic acid. Another interaction that occurred in 1.89 percent of patients was between calcium carbonate and iron; this suggests that taking iron at the same time as bicarbonate may reduce iron levels. The third and last interaction was between iron and sodium bicarbonate; this suggests that taking bicarbonate at the same time as iron may reduce iron effectiveness. Only one patient had a small side effect—a soreness in the abdomen—as a result of the folic acid, but no major adverse drug reactions were documented. Three patients out of 300 have not received medication prescriptions due to blood transfusions. Treatment cost an average of 920.68Rs. per month for 297 patients. The price ranged from 16.18Rs. per month at the lowest end to 1809Rs. at the maximum. Paying between 500 and 1000 Rs. was paid by 64.31 percent of patients, 1001 to 1500 Rs. by 12.12 percent, and 1500 to 2000 Rs. by 3.70 percent.

V. CONCLUSION

In a tertiary care teaching hospital, this research sheds insight on the present patterns of drug use in the therapy of anaemia among pregnant women. Iron and folic acid supplements are still the backbone of therapy, according to the results, with oral iron formulations being the most usually given. Following clinical severity assessment, patients with moderate to severe anaemia were treated with parenteral iron treatment and other supportive therapies.

The majority of prescriptions followed national and WHO recommendations; nevertheless, there were some small differences in dose, preferred formulations, and frequency of administration, suggesting the need for standardised prescribing procedures. Aiming to improve patient compliance and therapeutic effectiveness, fixed-dose combos were likely used often.

In sum, the research highlights the need for educational campaigns to encourage reasonable medication usage during prenatal care and for ongoing prescription monitoring. Healthcare practitioners may optimise treatment plans with the help of regular medication use evaluations,

which improves maternal and newborn outcomes.

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