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A Study on Self-Care Activities of Anemic Patients: An Observational Study in Inpatients

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ABSTRACT

INTRODUCTION: Anemia, a prevalent condition marked by decreased hemoglobin or red blood cell counts, impairs physical performance, energy levels, and quality of life. While pharmacological treatment is essential, patient engagement through self-care significantly influences outcomes. This study aimed to evaluate self-care practices among anemic patients and correlate them with hematological parameters to better understand their role in disease management.

MATERIAL AND METHOD: This prospective cross-sectional observational study was conducted over six months (November 2023 – April 2024) at Sri Aurobindo Hospital, Indore, after obtaining ethics committee approval. Sixty-seven adult anemic patients (aged 18–65 years) were enrolled based on inclusion criteria. Data collection included structured questionnaires, patient interviews, medical and medication history, laboratory results, and treatment charts. Exclusion criteria comprised pregnancy, cognitive impairments, major comorbidities, and concurrent participation in other anemia-related studies. **RESULT:** Among the 67 participants, 52.9% were female and the majority were aged 18–45 years. Iron deficiency anemia (37.1%) was the most common type, followed by vitamin B12 deficiency (15.7%). Only 33.8% received formal education about anemia. Alternative treatments were used by 71.8% and 26.1% had undergone blood transfusions. Most patients reported poor sleep quality (93%) and low adherence to stress management (7.6%) and medication (87%). A statistically significant correlation (p < 0.05) was found between adequate self-care practices and improved hematological parameters such as Hb, RBC, MCH, MCV, MCHC, serum iron, and vitamin B12 levels.

CONCLUSION: The study demonstrates that self-care adherence significantly contributes to anemia control. Education, behavioral interventions, and supportive care strategies are essential for improving outcomes.

DISCUSSION: Findings highlight the need for age-specific, culturally sensitive interventions focusing on lifestyle, education, and follow-up. Tailored health education and integrated patient-centered models can bridge existing gaps in self-care practices.

KEYWORDS: Anemia, Self-care, Hemoglobin, Iron deficiency, Patient education, Health behavior, Medication adherence

INTRODUCTION:

Evaluation of self-care practices in anemic patients is pivotal for enhancing overall health and quality of life. Anemia, characterized by low hemoglobin or red blood cell levels, leads to symptoms like weakness, exhaustion, and shortness of breath, thereby affecting daily activities and well-being. Thus, assessing self-



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care routines helps identify gaps, guide treatment, and optimize outcomes [1,2].

This evaluation includes areas such as dietary habits, medication adherence, physical activity, stress management, and lifestyle choices [3,4]. By addressing these domains, healthcare providers can support medical therapies and enhance patient outcomes [5]. Anemia challenges extend beyond clinical management and require attention to the patient's daily routines [6].

A key area of focus is dietary intake, particularly consumption of iron-rich foods and essential nutrients like vitamin B12 and folate [7,8]. Barriers like financial constraints or cultural practices may hinder optimal nutrition and must be considered to develop targeted interventions [9].

Physical activity and stress management also significantly influence self-care. Regular exercise reduces fatigue and increases energy levels, while relaxation techniques help manage the psychological burden of chronic illness [10,11]. A comprehensive strategy that addresses these elements can lead to improved outcomes and a better quality of life [12].

Health literacy, access to resources, and social support systems also impact a patient's ability to practice self-care. Evaluating these factors enables personalized interventions, promotes autonomy, and supports informed decision-making [13,14]. Ultimately, effective self-care improves treatment adherence and health outcomes while reducing the burden on healthcare systems [15].

MATERIAL AND METHOD:

This study was conducted after obtaining approval from the Ethics Committee of Sri Aurobindo Institute of Pharmacy, Indore. It was designed as a questionnaire-based, cross-sectional prospective observational study aimed at evaluating self-care activities in anemic patients. The study was carried out over a period of six months, from November 2023 to April 2024, at Sri Aurobindo Hospital, a 500-bed teaching hospital in Indore under the Sri Aurobindo Group.

Data collection was performed using structured tools including questionnaires, patient or caregiver interviews, medication history, laboratory data, and prescription or treatment charts. A detailed Case Report Form was used to record demographic details such as patient's name, age, gender, height, weight, inpatient number (IPD No.), date of admission, and date of discharge. It also captured patient history, including medical, medication, and social aspects, as well as laboratory investigation results and treatment information. Additional tools included a patient counselling and consent form and a questionnaire assessing self-care practices. The study included adult patients aged between 18 and 65 years who had a confirmed diagnosis of anemia. Participants were required to be capable of understanding the study instructions, willing to give informed consent, and available for follow-up assessments during the study period.

Patients were excluded if they had other significant medical conditions that could potentially influence self-care behaviors, cognitive impairments that could interfere with questionnaire responses, were pregnant, currently participating in other clinical trials related to anemia, or had a known history of non-compliance with prescribed medical treatments.

RESULT:

A cross-sectional prospective observational study was conducted with a calculated sample size of 67 patients, all of whom met the eligibility criteria and completed the study, yielding a 100% response rate. The study was carried out at the Sri Aurobindo Institute of Medical Sciences (SAIMS), Indore, across four wards: General Medicine (40 patients), Pediatrics (7), Gynecology (11), and Geriatrics (9). Among the



participants, 52.9% were female and 48% male, with the majority aged between 18 to 45 years.

Gender 35, 52% 32, 48% Male Female I

Fig.1: Graphical presentation of patient based on gender distribution

Social habits indicated that approximately 31% were alcohol consumers and smokers. The duration of illness varied, with 39.4% experiencing symptoms for less than one month. The most common diagnoses included iron deficiency anemia (37.1%) and vitamin B12 deficiency anemia (15.7%). Notably, 71.8% of patients reported receiving alternate treatments beyond allopathic medicine, and 26.1% had received blood transfusions. Only 33.8% had formal education on anemia management.



Fig.2: Graphical presentation of patient based on Type of anemia diagnosed.

Laboratory findings revealed that 93% had hemoglobin levels below 11 gm/dL, with more than half exhibiting low mean corpuscular volume (MCV) and mean corpuscular hemoglobin concentration (MCHC) levels.

Self-care activities varied, with 47.9% exercising 1-2 times per week, but 88.7% reported feeling exhausted during daily activities. Sleep quality was generally poor to moderate in 93%, and 75.7% experienced anxiety or stress. Dietary adherence was low, with 58% not following specific anemia management diets and only 7.6% practicing stress management techniques. Medication adherence was



moderate to poor in 87%, with one-third reporting adverse effects. Patient satisfaction with anemia support was mixed, with only 37% satisfied or very satisfied, while 38.8% missed follow-up appointments.



Fig.2: Graphical presentation of patient based on Type of anemia diagnosed.

Accessibility to anemia-related information was perceived as somewhat accessible by 64.3%. Statistical analysis showed significant associations between self-care activities and hematological parameters, including strong positive correlations with hemoglobin, RBC, MCH, MCV, MCHC, serum iron, and vitamin B12 levels. Overall, the findings highlight the critical role of self-care in managing anemia and the need for improved education, support, and follow-up to enhance patient outcomes.

CONCLUSION:

This observational study aimed to evaluate the impact of self-care activities on anemia management in 67 patients selected by specific criteria. Data collected included demographics, laboratory results (CBC), self-care practices, healthcare access, and overall well-being. A standardized questionnaire assessed the social, emotional, and mental effects of anemia on daily life, alongside healthcare access and general health status. Laboratory parameters were monitored to observe anemia progression or improvement. Statistical analysis revealed a significant difference between patients with adequate self-care and good lab results versus those without adequate self-care and poor lab reports. The T-test indicated a statistically significant difference (P < 0.05), supporting the alternative hypothesis. The findings confirm that engaging in adequate self-care significantly benefits anemia patients, especially when paired with accurate lab monitoring. This highlights the critical role of healthcare practices that promote patient education on self-care and ensure reliable laboratory testing. Future studies should investigate the biological and behavioral pathways linking self-care to hematological health, enabling targeted interventions. Healthcare providers are encouraged to incorporate comprehensive care models that emphasize patient education and support lab accuracy to improve anemia outcomes effectively.

DISCUSSION:

Anemia, a widespread condition characterized by low hemoglobin or red blood cell counts, requires multifaceted management, including self-care. Our study showed a slightly higher proportion of women (52.9%) affected, consistent with previous findings (García et al., 2016), though gender differences vary by culture and healthcare access (Müller et al., 2020). Contrary to earlier research, younger adults (18–45 years) predominated, suggesting the need for age-specific interventions (Lee et al., 2017).



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Lifestyle factors such as abstaining from smoking and alcohol (64.3%) were linked to better self-care adherence (Park et al., 2015). Longer illness duration correlated with increased self-care, supporting sustained patient support (Müller et al., 2013). Iron deficiency anemia (37.1%) and thalassemia (10%) were most common, indicating tailored therapies are needed (Kim et al., 2021). Many patients used blood transfusions (26.1%) and alternative treatments (71.8%) alongside conventional care (Park et al., 2015). A large majority lacked formal education on anemia management (66.2%), exposing gaps in health education (Singh et al., 2018). Physical activity, sleep quality, and psychological well-being emerged as important care factors (Smith et al., 2018; Hanley, 2019; Jahng et al., 2020). Despite good access to anemia information, adherence varied, emphasizing the need for enhanced education and patient-centered support (Fernandez et al., 2018; DiMatteo, 2004; Cohen et al., 2015).

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