

Descriptive Study of Malabsorption Syndrome at the Postgraduate Hospital in Khost, Afghanistan

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ABSTRACT

Background: Malabsorption syndrome is a gastrointestinal condition hindering the efficient absorption of nutrients from food. Multiple factors contribute, primarily linked to mucosal damage within the small intestine, the primary site for nutrient absorption. (1)

Research Goal: The Frequency and pattern of Malabsorption in khost provincial and specialized Hospital During year 1400 hijri shamsi.

Research rational: There is no medical information about the case in the civil and specialized hospital of khost, also the disease events constitute a large percentage of disease events if diagnosed and treat in time the complication rate will be reduced.

Methodology: Our study is a descriptive case series conducted in the year 1400. Among the 2,311 patients admitted to Khost Hospital during that time, 80 individuals were diagnosed with Malabsorption Syndrome.

Result: During the year 1400, 2311 patients were hospitalized in khost hospital, among these, 30 patients were diagnosed as Malabsorption, most were younger than 20 and more than 60 years, most of them were female, the significant symptoms were chronic diarrhea, weight loss, dyspepsia and dehydration. most admitted patients were referred from center of khost city and major complications were weight loss, malnutrition, and anemia.

Final result: the incidence of malabsorption contains 1.29% of all other diseases, the incidence is higher in patients who aged less than 20 and more than 60 years, the incidence is higher in female than male, the events are more in the central areas of the khost than the districts., the common symptoms are chronic diarrhea, weight loss, dyspepsia. The weight loss, malnutrition, and anemia were the major complications.

Keywords- Malabsorption syndrome, age, gender, complication, symptoms, celiac disease, accommodation.

I. INTRODUCTION

The gastrointestinal tract plays a crucial role in the absorption of essential nutrients, including fats, carbohydrates, proteins, vitamins, minerals, and trace elements. Malabsorption refers to the impaired absorption of nutrients at any point in the digestive process, while maldigestion involves problems with nutrient breakdown within the intestinal lumen or at the brush border. Despite their differences, digestion and absorption are closely intertwined processes. Malabsorption can result from

various factors, including diseases affecting the mucosal lining, conditions causing damage to the mucosa over time, congenital defects in membrane transport systems, specific nutrient absorption problems, reduced gastrointestinal motility (characterized by decreased peristalsis and stasis), disruptions in bacterial flora, infections, compromised blood flow, or lymphatic issues. These factors can lead to either a broad impairment in the absorption of all nutrients or affect specific nutrients selectively. Typically, impaired nutrient absorption occurs somewhere along the small intestine due to its

extensive surface area, enhanced by villi and microvilli, as well as the available space within the lumen. Additionally, organs such as the gall bladder, pancreas, blood vessels, and lymphatics play essential roles in the digestion and absorption process, directly influencing the small intestine's function.

Digestion and absorption involve a combination of mechanical mixing, enzyme synthesis and secretion, enzymatic activity, mucosal health, blood supply, intestinal motility, and a balanced microbial flora. Common symptoms of malabsorption syndromes include diarrhea, steatorrhea (excess fat in stools), unintentional weight loss, developmental delays or skeletal deformities in children, and often observable anemia. Treatment and symptom management for malabsorption syndromes depend on the underlying cause, given the diverse range of factors contributing to these conditions. It is crucial to identify the specific etiology to develop an effective treatment plan for individuals experiencing malabsorption-related issues. (2)

1.1 Importance of Research:

Due to the absence of prior research at Khost Post Graduate Hospital, investigating this issue is crucial, as it may impact growth, development, and potentially result in various illnesses.

II. METHODOLOGY

Our research is of a descriptive nature and is based on a case series conducted from the first day of Hamal 1400 H.S to the last day of Hoot in the same year. During this period, 2311 patients were hospitalized at Khost Postgraduate Hospital. Among these patients, 80 individuals were diagnosed with Malabsorption syndrome. Notably, there has been no previous research on this specific issue conducted at Khost Postgraduate Hospital. Therefore, the results of this research hold significant value for the General Internal Medicine Department, offering valuable insights into this condition.

2.1 Objective: frequency and pattern of Malabsorption according to Age, Sex, symptoms, Patient accommodation and Complications.

III. IMPORTANCE OF THIS RESEARCH IN HEALTH SYSTEM

The importance of this research in the health system cannot be overstated. Malabsorption is a prevalent and increasingly common disease, making it imperative to address in order to prevent further spread and complications. By conducting research on malabsorption in Khost Post Graduate Hospital, this study can attract the attention of relevant authorities, leading to proactive measures for prevention and management. Furthermore, this research will play a vital role in enhancing the knowledge of young professional doctors, equipping them with valuable insights to better diagnose and treat malabsorption. Since there is currently a lack of research

on this issue in the region, the results will not only benefit medical professionals at the hospital but will also be a valuable resource for all healthcare workers. Beyond the medical sphere, malabsorption has significant societal and economic impacts. Regular data collection, analysis, and reporting to authorities are essential to inform policies and interventions, ultimately reducing the burden of malabsorption on both individuals and the healthcare system.

Table 1: All inpatient and Malabsorption Percentage.

All inpatient	Malabsorption patients	Other patient
2311	30	2281
100%	1.29%	98.70%

In the provided table, 30 patients, constituting 1.29% of the total sample of 2311, were diagnosed with Malabsorption. All of these patients were admitted to Khost Post Graduate Hospital.

Table 2: Patient Percentage According to Age.

No	Age	Patients	Percentage
1	15-20	14	46.6%
2	20-60	7	23.3%
3	>60	9	30%
All patients		30	100%

In above table the age of 14 patients (46.6%) was between 15-20 year 7 patients (23.3%) was 20-60 year and 9 patients (30%) was more than 60 years.

Table 3: Percentage of patient according to Gender.

No	All inpatient	Female	Male
1	30	17	13
2	100%	56.7%	43.3%

In above table according to the sex percentage of 17 (56.7%) patients was Female and 13 (43.3%) was male so the incidence of female against male was higher.

Table 4: Percentage of Patient According to Symptoms.

No	Symptoms	All patient	Percentage
1	Chronic Diarrhea	10	33.3%
2	Weight los	7	23.3%
3	Dyspepsia	6	20%
4	Weakness,	4	13.3%
5	Muscle wasting,	3	10%
6	All patients	30	100%

In above table percentage of patients according to symptoms 10 patients (33.3%) were detected as chronic diarrhea, 7(23.3%) were as weight los,6(20%) were as dyspepsia ,4 (13.3%) were as weakness and 3 (10%) patients were detected as muscle wasting.

Table 5: Percentage according to Patient Accommodation.

No	Address	Patient	Percentage
1	Khost center	14	46,6%
2	Alisheer	7	23.3%
3	Sabari	5	16.6%
4	mandozi	4	13.3%
All patients		30	100%

In above table percentage of patients according accommodation 14 (46.6%) patients were from khost central areas 7 (23.3%) patients were from alisher district 5 (16.6%) were from sabari district and 4 (13.3%) patients were from manodozai district.

Table 6: Percentage of Patient According to Complication.

No	Complications	Patient	Percentage
1	Weight loss	16	53.3%
2	malnutrition	8	26.6%
3	Anemia	6	20%
All patients		30	100%

In above table percentage of patient according to complications 16 (53.3%) patients were weight los,8 (26.6%) were malnutrition and 6 (20%) patients were anemia.

IV. INTERNATIONAL LITERATURES REVIEW

Italy-This study, authored by Gloria Galli, Giulia Amici, Laura Conti, Edith Lahner, Bruno Annibale, and Marilia Carabotti, was conducted within the Medical-Surgical Department of Clinical Sciences and Translational Medicine at Sant' Andrea University Hospital in Italy. The research focused on patients diagnosed with celiac disease (CD) between 2008 and 2019, with a total of 393 patients initially considered. However, 76 patients (19.3%) were excluded because they did not meet the inclusion criteria. Ultimately, the study included 317 patients, consisting of 87 males (27.5%) and 230 females (72.5%). The study's findings revealed several key differences between male and female CD patients. Female patients tended to be younger and had lower median BMI values. They also reported gastrointestinal (GI) symptoms and signs of malabsorption more frequently, especially anemia and

hypoferritinemia, and had a longer duration of symptoms/signs (>3 years) before receiving a CD diagnosis. Interestingly, osteopenia/osteoporosis was more prevalent among male patients. Furthermore, multivariate analysis showed that females were more likely to experience upper GI symptoms such as nausea/vomiting, heartburn, dyspepsia, and constipation compared to their male counterparts. Conversely, male patients were more likely to have osteopenia/osteoporosis and lower BMI values compared to females.(3)

Saudi Arabia- The research, conducted by Omar I Saadah, Sharifa A Alghamdi, Haifa H Sindi, Huda Alhunaiti, Yagoub Y Bin-Taleb, and Bakr H Alhussaini, involved a retrospective review of patients with Congenital Chloride-losing Diarrhea and Glucose Malabsorption (CGGM) in three major hospitals in Jeddah, Saudi Arabia. These hospitals included King Abdulaziz University Hospital, King Faisal Specialist Hospital and Research Centre, and Maternity Children Hospital, covering the period from November 2001 to October 2011. The study encompassed 24 CGGM patients, with a median age at diagnosis of 4.5 months. Among them, 50% were male, and 66.7% were Saudi nationals, while 33.3% were non-Saudi, consisting of 5 Arabs and 3 Asians. A notable observation was that parents of 21 patients were consanguineous, and 37.5% of the patients had affected siblings with CGGM. The common presenting symptom was diarrhea leading to dehydration. Hyponatremia was identified in 29.2% of the patients, while renal tubular acidosis was diagnosed in 4 patients. Additionally, renal stones and nephrocalcinosis were observed in 12.5% of the patients at different time intervals. The median follow-up period was 41.6 months, during which all patients, except three, demonstrated normal weight gain. Some patients reported symptoms such as bloating (n=3), diarrhea (n=3), and abdominal pain (n=1) during follow-up, but none of them experienced developmental delays or neurological complications as a result of dehydration. (4)

India- The research in question was conducted by a team of investigators at the Gastroenterology Department of Sanjay Gandhi Postgraduate Institute of Medical Sciences in Lucknow, India. The study aimed to assess the various causes of gastrointestinal disorders in a cohort of 275 patients, comprising 170 males (61.5%) and with an average age of 37.5 years (± 13.2 years). Using established diagnostic criteria, the researchers identified the following primary causes in the patient group: tropical malabsorption (TM) in 101 cases (37%), celiac disease (CD) in 53 cases (19%), small intestinal bacterial overgrowth in 28 cases (10%), AIDS-related gastrointestinal issues in 15 cases (5.4%), giardiasis in 13 cases (5%), hypogammaglobulinemia in 12 cases (4%), intestinal tuberculosis in 7 cases (2.5%), strongyloidiasis in 6 cases (2%), immunoproliferative small intestinal disease in 5 cases (2%), Crohn's disease in 6 cases (2%), amyloidosis in 4 cases (1.5%), intestinal lymphangiectasia in 3 cases (1%), and an unknown cause

in 22 cases (8%). The study found significant differences between patients with CD and TM. Patients with CD tended to be younger (30.6 years vs. 39.3 years), had lower body weight, longer duration of diarrhea, lower stool frequency, lower hemoglobin levels, higher platelet counts, and were more likely to exhibit hepatomegaly and subtotal or partial villous atrophy. Multivariate analysis highlighted that younger age (<35 years), longer duration of diarrhea, higher platelet count, and the presence of villous atrophy were significant factors in distinguishing CD from TM within the patient population. (5)

V. RESULT

Malabsorption syndrome is one of the common diseases. this study which was conducted retrospectively at the Khost post graduated hospital during the year 1400, the consequence of this research shows that the incidence of malabsorption contains 1.29% of all other disease

- 1- the incidence of malabsorption syndrome is higher in patients who aged less than 20 and mor than 60 years.
- 2-according to the gender the incidence of malabsorption is higher in femal than male.
- 3-the events of malabsorption are more in the central area of the Khsot than the districts.
- 4-the common symptoms of the malabsorption syndrome are chronic diarrhea, weight loss, dyspepsia, weakness.
- 5-the weight loss, malnutrition, and anemia were the major complications of malabsorption syndrome.

VI. DISCUSSION

Our research, conducted in the General Internal Medicine Department of Khost Post Graduate Hospital, revealed that Malabsorption was identified in approximately 1.29% of all hospitalized patients. Notably, this prevalence appears lower than that reported in Italy, and this discrepancy can be attributed to the limited availability of diagnostic facilities in our region and the potential misdiagnosis of Malabsorption as other medical conditions. Our findings indicated a higher incidence of Malabsorption among the younger population, with 46.6% of cases occurring in individuals aged 15-20, while only 9% were observed in those aged over 60. This contrasts with a study conducted in Saudi Arabia, where the median age at diagnosis was 4.5 months. Gender differences were also notable, with 56.7% of our cases being female, as opposed to 72.5% in Italy. The symptoms associated with Malabsorption in our research varied, with chronic diarrhea (33.3%), weight loss (23.3%), dyspepsia (20%), weakness (13.3%), and muscle wasting (13.3%) being common presentations. In contrast, the Saudi Arabian study reported that all patients presented with diarrhea resulting in dehydration, accompanied by hypernatremia (29.2%), renal tubular acidosis (4 patients), and renal stones and nephrocalcinosis (12.5%). The major complications identified in our research included weight loss (53.3%),

malnutrition (26.6%), and anemia (20%). These findings underscore the importance of early detection and appropriate management of Malabsorption, especially in regions with limited diagnostic resources.

VII. CONCLUSION

The first date of hamal 1400 to the last date of hoot ,2311 patients were hospitalized in khost post graduated hospital, out of these 2311 patients 30 patients were diagnosed as Malabsorption, according to age most of patients were younger than 20 and more than 60 year, most of them were female, the significant symptoms were chronic diarrhea, weight loss, dyspepsia ,weakness and dehydration. most admitted patients were referred from center of khost city and major complications were weight loss, malnutrition, and anemia.

PROBLEMS WITH ME FACED DURING RESEARCH

1. The absence of a well-equipped research facility hampers research due to the essential need for laboratories and equipment.
2. The lack of standardized services for all patients raises concerns.
3. Mixing diverse patient types in shared rooms on a single bed is a notable issue.
4. Limited public awareness regarding malabsorption is a significant challenge.
5. Delayed hospital visits by malabsorption patients is a prevalent issue.
6. Many patients arrive at the hospital with malabsorption complications, highlighting a pressing concern.

SUGGESTIONS

1. To enhance existing EPI initiatives, seek additional funding from UNICEF and other relevant organizations.
2. Recruit skilled professionals to strengthen the workforce.
3. Establish a modern general internal medicine ward equipped to address malabsorption issues effectively.
4. Launch public awareness campaigns through various media channels (TV, radio, magazines, newspapers) to educate the public about malabsorption syndrome.

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