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Case Report

Holistic Management of Chronic Stress and Gastrointestinal Disease in a Primary Care Setting – The Role of Social Support in Caregiver Health: A Case Report

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Abstract: ***Background*:** Chronic caregiver stress is a frequently under-recognised contributor to physical and mental health morbidity. Sustained caregiving imposes significant psychosocial burden that often remains unaddressed within conventional biomedical frameworks. ***Case Presentation*:** We present the case of a 57-year-old married woman who has served as the primary caregiver for her adult daughter with cerebral palsy since birth. Over decades of caregiving, she developed multiple chronic gastrointestinal and systemic health problems, including gastroesophageal reflux disease (GERD), gastritis, hiatus hernia, irritable bowel syndrome (IBS), fatigue, and generalised musculoskeletal discomfort largely attributed to chronic stress and prolonged self-neglect. ***Management and Outcome*:** A holistic, psychosocially informed management plan incorporating pharmacological therapy, dietary counselling, stress management strategies, and connection to community and governmental social support services led to significant and sustained improvements in her gastrointestinal symptoms, fatigue, sleep quality, and overall well-being. ***Conclusion*:** This case highlights the critical importance of integrating psychosocial assessment and social support into routine primary care practice. Recognition of caregiver burden as a driver of physical illness is essential for delivering comprehensive, patient-centred care.

Keywords: Caregiver Burden, Psychosocial Stress, Psychosomatic Medicine, Cerebral Palsy, Gastrointestinal Disorders.

1. INTRODUCTION / BACKGROUND

Caregiving for a dependent family member is an increasingly prevalent phenomenon in modern healthcare systems. While caregivers provide indispensable support to individuals with chronic illness, disability, or age-related dependence, the health of the caregivers themselves is often overlooked. Sustained caregiving imposes a substantial psychosocial burden commonly referred to as caregiver burden which encompasses emotional distress, role strain, social isolation, financial hardship, and diminished personal health behaviours.

Chronic psychological stress, as experienced in long-term caregiving, has well-documented pathophysiological effects on multiple organ systems. Stress-mediated dysregulation of the hypothalamic-pituitary-adrenal (HPA) axis and the autonomic nervous system contributes to gastrointestinal dysmotility, mucosal hypersensitivity, and impaired gastric acid regulation mechanisms underlying conditions such as GERD, gastritis, hiatus hernia, and IBS. Systemic manifestations including chronic fatigue, musculoskeletal pain, and immune dysfunction are similarly linked to neuroendocrine stress responses [1].

Despite growing recognition of the biopsychosocial model in clinical medicine, primary care encounters frequently focus on symptom-based, biomedical management, often failing to identify the psychosocial determinants of illness. Caregiver morbidity including elevated rates of depression, anxiety, cardiovascular disease, and functional somatic

syndromes represents a significant yet underaddressed public health burden [2, 3].

This case report documents the clinical journey of a middle-aged female caregiver presenting with stress-related gastrointestinal and systemic symptoms, and demonstrates how a holistic, biopsychosocial approach incorporating medical therapy, lifestyle modification, and social support can achieve clinically meaningful improvements in patient outcomes. The case also illustrates the important role of governmental support systems in caregiver health resilience.

The purpose of this report is to highlight the importance of recognising caregiver stress as a primary driver of physical morbidity, and to advocate for the systematic integration of psychosocial and social care considerations into routine primary care practice.

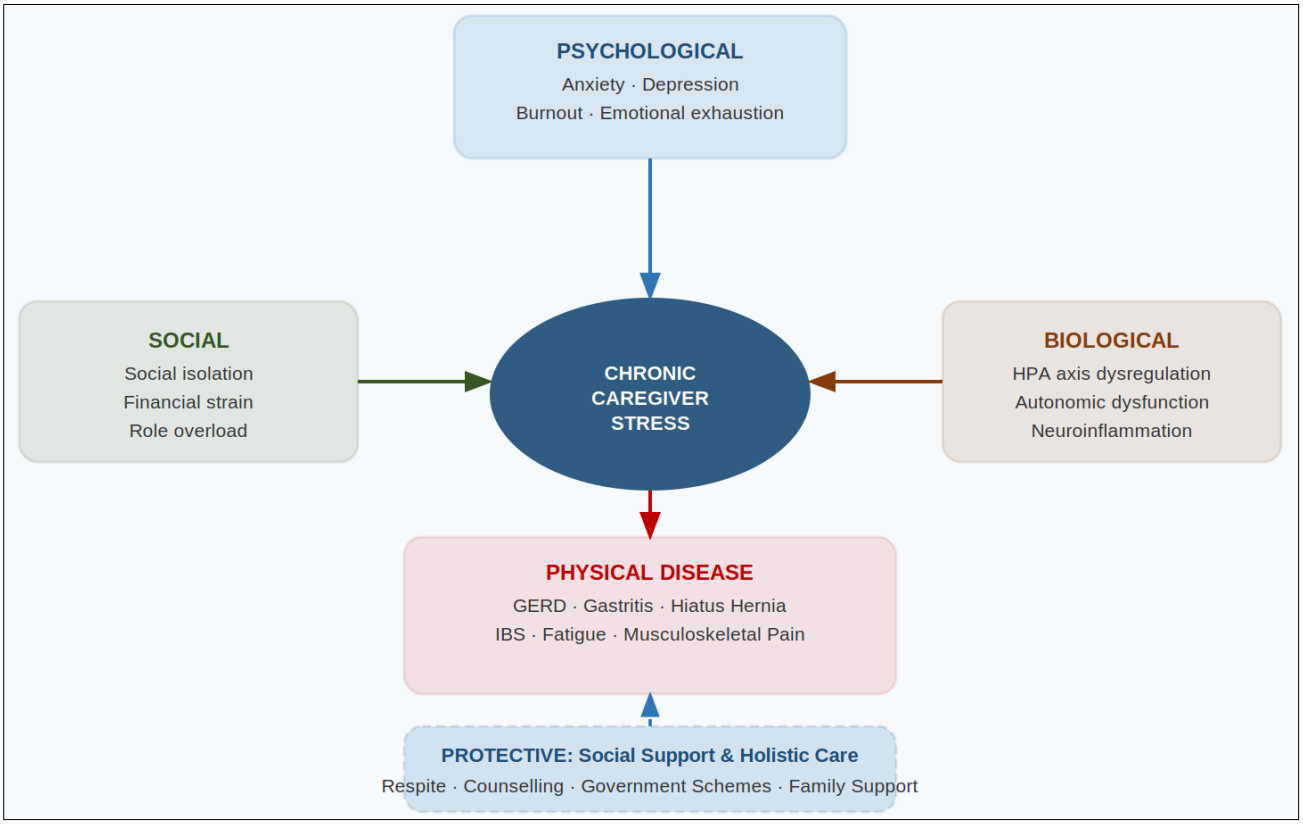

Figure 1: Biopsychosocial model of chronic caregiver stress and disease. The central stressor drives physical disease through psychological, biological, and social pathways. Social support and holistic care serve as protective factors

2. CASE PRESENTATION

2.1 Patient Demographics

A 57-year-old married woman of unspecified ethnicity presented to a primary care clinic. She has three daughters. No identifying information is disclosed in accordance with patient confidentiality requirements.

2.2 Chief Complaint and History of Present Illness

The patient presented with a constellation of chronic gastrointestinal and systemic complaints, including:

- Severe gastroesophageal reflux disease (GERD) with episodic heartburn and acid regurgitation
- Gastritis with epigastric discomfort
- Hiatus hernia diagnosed on investigation
- Irritable bowel syndrome (IBS) with alternating bowel habits
- Persistent fatigue and low energy
- Generalised musculoskeletal discomfort

Symptoms had developed gradually over many years and had been largely untreated, as the patient reported prioritising her caregiving responsibilities over her own health. She acknowledged self-neglecting symptoms for extended periods due to the demands of caring for her dependent daughter.

2.3 Relevant Past Medical, Surgical, Family, and Social History

Past Medical History: No prior formal diagnoses documented prior to this presentation; symptoms had been ongoing but unaddressed.
Surgical History: Not reported.
Family History: Not formally documented. Her youngest daughter (aged 20) has cerebral palsy secondary to perinatal complications, requiring a caesarean section at birth.
Social History: The patient is married with three daughters. She has served as the primary caregiver for her youngest daughter since birth, a role that has

intensified over the past two decades. She has minimal social outlets and limited time for self-care.

Notably, five years prior to this consultation, the patient was enrolled in a government social support scheme that provides a reasonable salary for parents who remain at home to care for a dependent adult child. This financial and social recognition of her caregiving role partially alleviated the burden and contributed to her seeking medical attention.

2.4 Physical Examination Findings

Physical examination findings were consistent with a chronically stressed individual with functional somatic symptoms:

- General appearance: Tired, slightly fatigued-looking woman; oriented and cooperative
- Vital signs: Within normal range; mild tachycardia not excluded
- Abdominal examination: Mild epigastric tenderness; no organomegaly; bowel sounds present
- Musculoskeletal: Diffuse tenderness on palpation of paravertebral muscles; no joint swelling
- Neurological: Grossly intact
- No features suggestive of serious structural or malignant pathology

2.5 Laboratory and Imaging Findings

A comprehensive diagnostic workup was undertaken:

- Routine blood investigations: Full blood count, metabolic panel, thyroid function tests, inflammatory markers result available for review; no critical abnormalities reported
- Upper and lower gastrointestinal endoscopy: Planned and referred for formal evaluation of GERD, gastritis, and hiatus hernia; results pending at case documentation
- Imaging: As clinically indicated to exclude structural pathology
- Psychosocial assessment tools: Applied to quantify caregiver burden and stress levels

2.6 Clinical Course and Timeline

A summary of the clinical timeline is presented in Table 1 below.

Table 1: Clinical timeline of the patient's caregiving history, symptom onset, and management course

Time Point	Event	Intervention
Birth of youngest daughter	Patient begins caregiving role for daughter with cerebral palsy (perinatal complication requiring C-section)	—
Over subsequent decades	Progressive increase in caregiving responsibilities; patient self-neglect of own health	—
5 years prior to consultation	Enrolled in government social support scheme (salary for home caregivers)	Financial and social stability initiated
Onset (chronic)	Gradual onset of GERD, gastritis, hiatus hernia, IBS, fatigue, musculoskeletal discomfort	—
Initial consultation	Full psychosocial, nutritional, and clinical assessment; bloods, imaging planned	Holistic assessment initiated
Early management phase	Pharmacological therapy for GI symptoms; endoscopy referral; counselling commenced	Medical + psychological interventions
Mid-management phase	Nutritional counselling; respite care and community support connections; family engagement	Lifestyle + social support reinforced
Follow-up (several months)	Significant improvement: GI symptoms, sleep, energy, musculoskeletal pain, wellbeing	Ongoing monitoring and support

3. Differential Diagnosis

Given the patient's presenting symptoms of chronic epigastric discomfort, reflux, altered bowel habits, and systemic fatigue, the following differential diagnoses were considered prior to reaching the final diagnosis:

Peptic Ulcer Disease (PUD): Chronic NSAID use or Helicobacter pylori infection could account for epigastric pain and gastritis symptoms. Upper endoscopy was planned to exclude this diagnosis.

Gastric or Oesophageal Malignancy: In a patient of this age with longstanding GERD and gastritis, neoplastic disease was a necessary consideration. The absence of alarm symptoms (weight loss, dysphagia, haematemesis) reduced this probability, with endoscopy planned to confirm.

Coeliac Disease: Gastrointestinal symptoms including bloating, altered bowel habits, and fatigue can present in coeliac disease. Serological testing and dietary history were evaluated.

Inflammatory Bowel Disease (IBD): Crohn's disease or ulcerative colitis may manifest with chronic abdominal symptoms and fatigue. Colonoscopy was planned to assess the colonic mucosa.

Functional Dyspepsia: Overlapping significantly with stress-related GI disease; distinguished from IBS primarily by predominant epigastric rather than lower abdominal symptoms.

Thyroid Dysfunction: Hypothyroidism can cause fatigue and constipation; hyperthyroidism can exacerbate IBS-type symptoms. Thyroid function tests were included in the workup.

Fibromyalgia / Chronic Fatigue Syndrome: The combination of widespread musculoskeletal pain, fatigue, sleep disturbance, and GI symptoms in the context of chronic psychosocial stress is consistent with functional somatic syndromes. These were considered alongside the primary diagnosis.

Major Depressive Disorder / Generalised Anxiety Disorder: The patient's psychosocial history raised the possibility of underlying psychiatric comorbidity contributing to somatic symptoms. A formal mental health assessment was integrated into the care plan.

4. Diagnosis

Following comprehensive clinical, investigative, and psychosocial evaluation, the final diagnosis was established as:

Stress-Related Gastrointestinal Disease and Systemic Somatic Syndrome in the Setting of Chronic Caregiver Burden.

Clinical Images Required

Supporting evidence for this diagnosis includes:

- Clinical history consistent with decades of chronic psychosocial stress secondary to caregiving
- Temporal correlation between intensification of caregiving duties and onset of gastrointestinal symptoms
- Symptom profile (GERD, gastritis, hiatus hernia, IBS, fatigue, musculoskeletal pain) consistent with stress-mediated neuroendocrine and autonomic dysregulation
- Absence of alarm features or investigation findings suggestive of primary structural, inflammatory, or malignant pathology
- Significant symptom improvement in response to stress-targeted interventions alongside medical therapy

5. Treatment / Management

A comprehensive, multimodal management plan was developed, addressing medical, lifestyle, psychological, and social dimensions of the patient's health.

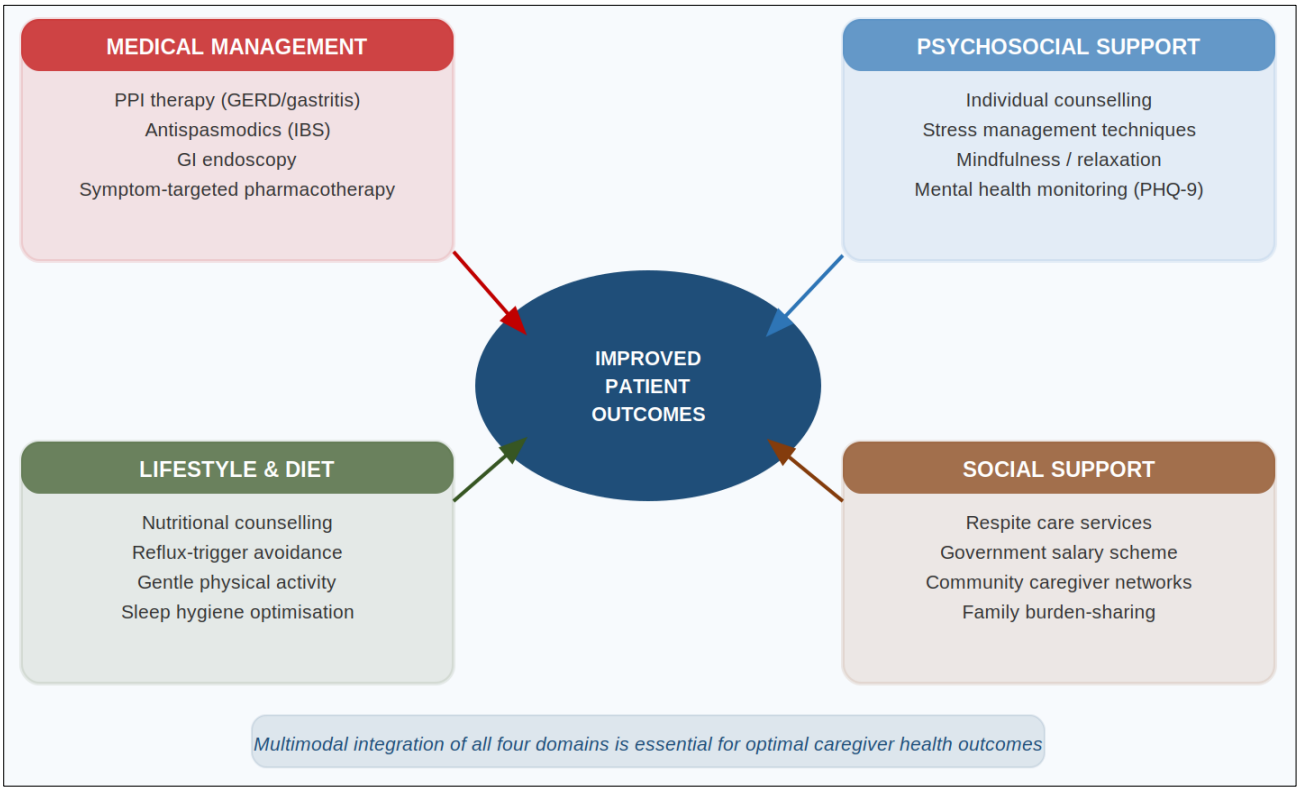

Figure 3: Holistic management framework applied in this case. Four integrated domains medical management, psychosocial support, lifestyle and diet, and social support converge to produce improved patient outcomes

5.1 Medical Management

i. **Pharmacological therapy for GERD/gastritis:** Proton pump inhibitor (PPI) therapy (e.g., omeprazole 20 mg once daily before meals) was initiated; duration guided by symptom response and endoscopy findings.

ii. **IBS management:** Dietary fibre supplementation, antispasmodic agents (e.g., mebeverine

hydrochloride 135 mg three times daily as required), and bowel habit regulators as indicated.

iii. **Hiatus hernia:** Conservative management with lifestyle modification; surgical referral to be considered if pharmacological therapy proves insufficient.

iv. **Gastrointestinal endoscopy:** Upper (oesophagogastroduodenoscopy) and lower (colonoscopy) endoscopy planned to formally assess mucosal pathology, exclude H. pylori infection, and rule out neoplasia or IBD.

v. **Symptomatic management:** Analgesics for musculoskeletal discomfort; sleep hygiene support for fatigue.

5.2 Lifestyle and Dietary Interventions

i. **Nutritional counselling:** Avoidance of reflux-triggering foods (caffeine, acidic foods, spicy meals, late evening eating); adoption of smaller, more frequent meals.

ii. **Weight management:** Guidance on maintaining healthy body weight to reduce intra-abdominal pressure.

iii. **Physical activity:** Gentle, stress-reducing physical activity (e.g., walking, stretching) incorporated where feasible given caregiving schedule.

iv. **Sleep hygiene:** Structured sleep routines to address fatigue and support restorative rest.

5.3 Psychosocial and Psychological Interventions

i. **Individual counselling sessions:** Regular structured sessions with a psychologist or counsellor to address caregiver stress, emotional exhaustion, coping strategies, and cognitive reframing.

ii. **Stress management techniques:** Mindfulness-based stress reduction, progressive muscle relaxation, and breathing exercises.

iii. **Mental health monitoring:** Ongoing screening for depression, anxiety, and burnout using validated tools (e.g., PHQ-9, GAD-7, Zarit Caregiver Burden Interview).

5.4 Social Support and Community Services

- **Respite care:** Referral to formal respite services to provide the patient with scheduled relief from caregiving duties.
- **Community support groups:** Connection to caregiver support networks for peer solidarity and shared experience.
- **Government support scheme:** Continued encouragement and facilitation of the salary-based home caregiver scheme, which provided financial recognition and enabled the patient to remain at home without economic insecurity.
- **Family engagement:** Involvement of other family members in shared caregiving responsibilities to distribute burden.

6. Outcome and Follow-up

Following several months of structured, holistic management, the patient demonstrated clinically meaningful improvements across multiple domains:

- **Gastrointestinal symptoms:** Significant reduction in the frequency and severity of GERD episodes, epigastric discomfort, and IBS-related bowel disturbance following PPI therapy, dietary modification, and stress reduction.
- **Fatigue:** Improved energy levels and reduced subjective fatigue, attributed to better sleep quality and reduced psychosocial burden.
- **Musculoskeletal symptoms:** Decreased generalised musculoskeletal discomfort following relaxation techniques and activity modification.
- **Psychological well-being:** Enhanced sense of resilience, emotional regulation, and self-efficacy following counselling and connection to support services.
- **Social functioning:** Greater engagement with community resources and family support, reducing social isolation.

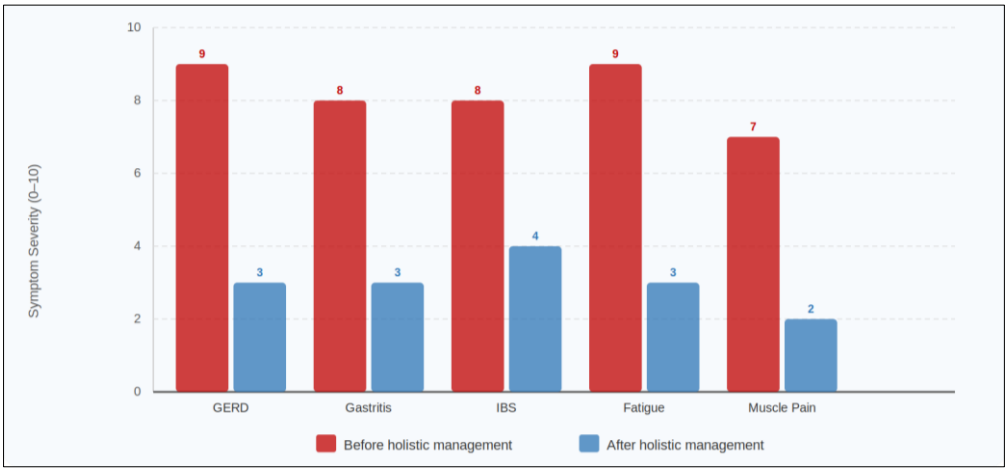

Figure 4: Comparative symptom severity scores before and after holistic management. Scores are based on clinical estimation on a 0–10 scale (0 = no symptoms, 10 = maximum severity). Substantial improvement was observed across all five symptom domains following the integrated intervention

No significant adverse effects from pharmacological interventions were reported. Endoscopic findings and follow-up laboratory results are pending and will be incorporated into the ongoing care plan. The patient remains engaged in long-term primary care follow-up. No acute complications or hospitalisations occurred during the management period.

7. DISCUSSION

7.1 Comparison with Existing Literature

Caregiver burden has been extensively documented as a risk factor for physical and psychological morbidity. Studies consistently demonstrate elevated rates of cardiovascular disease, immune dysfunction, sleep disturbance, and functional somatic syndromes among informal caregivers compared with non-caregiving controls [4]. The gastrointestinal manifestations observed in this patient GERD, gastritis, IBS are well-recognised sequelae of chronic psychosocial stress, mediated through dysregulation of the brain-gut axis [5].

The gut-brain axis represents a bidirectional communication network between the enteric nervous system and the central nervous system, modulated by hormonal, immunological, and neural pathways. Chronic stress activates the HPA axis, elevating cortisol levels that impair gastric mucosal defences, enhance visceral hypersensitivity, and alter gut motility providing a direct mechanistic link between psychosocial burden and the patient's gastrointestinal presentation [6].

7.2 Pathophysiology and Mechanisms

Several pathophysiological mechanisms are relevant in this case:

- **HPA axis dysregulation:** Chronic stress elevates glucocorticoid output, impairing mucosal integrity and enhancing gastric acid secretion, predisposing to GERD and gastritis.
- **Autonomic nervous system dysregulation:** Sympathetic overactivation reduces gastrointestinal motility and blood flow, contributing to dyspepsia and IBS.
- **Neuroinflammation and immune activation:** Stress-induced pro-inflammatory cytokine release contributes to systemic fatigue, musculoskeletal pain, and functional GI symptoms.
- **Behavioural mechanisms:** Sleep deprivation, poor dietary habits, and physical inactivity all common in caregivers independently exacerbate gastrointestinal and systemic health.

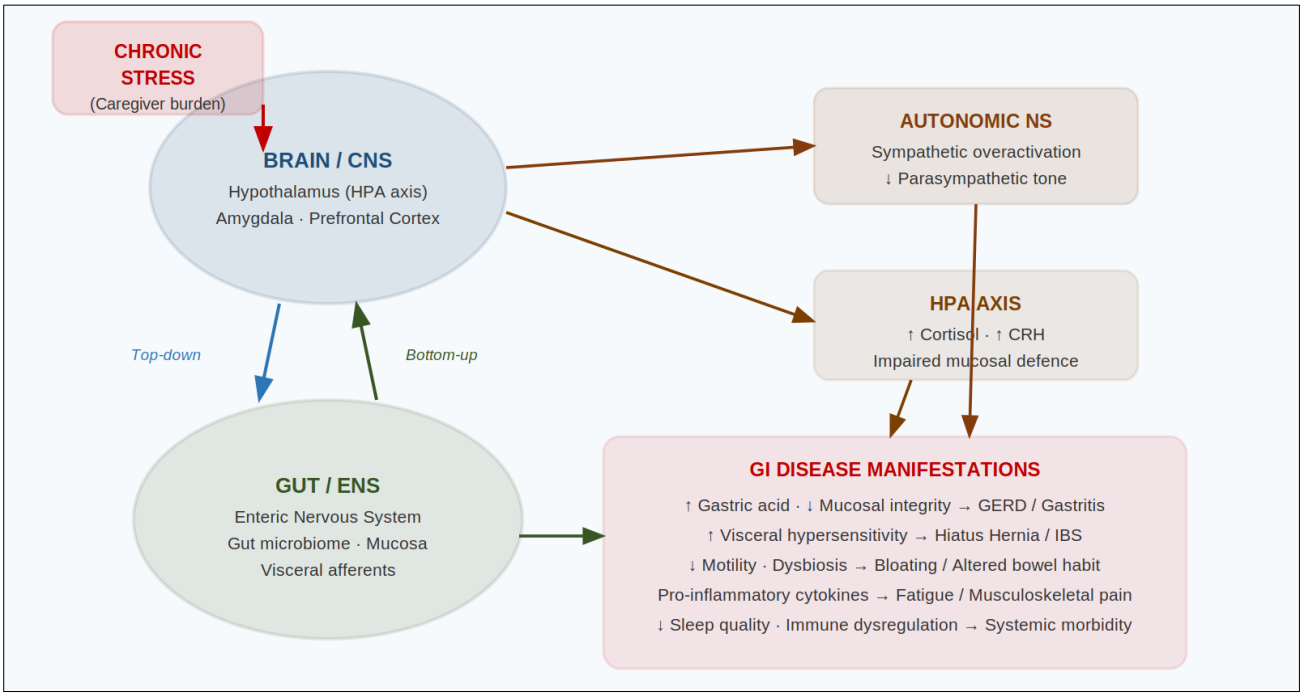

Figure 2: Schematic of stress-mediated gut-brain axis dysregulation. Chronic psychological stress activates the HPA axis and autonomic nervous system, leading to impaired mucosal integrity, visceral hypersensitivity, altered gut motility, and systemic inflammation the pathophysiological basis for GERD, gastritis, IBS, and related symptoms in this patient

7.3 Why Diagnosis Was Challenging

The diagnostic complexity in this case arose from several factors. First, the patient had not sought medical attention for many years, resulting in a constellation of entrenched, overlapping symptoms without a clear index event. Second, each symptom GERD, IBS, fatigue, musculoskeletal pain could independently be attributed to a primary organic pathology, necessitating thorough exclusion of structural disease. Third, the psychosocial context was not initially

prominent in the clinical presentation, underscoring the importance of proactive holistic history-taking in primary care.

7.4 Clinical Implications and Lessons Learned

This case yields several important clinical lessons:

i. **Routine caregiver screening:** Primary care clinicians should proactively identify patients with caregiving responsibilities and systematically assess for caregiver burden using validated tools.
ii. **Biopsychosocial formulation:** A purely biomedical approach is insufficient for stress-related multisystem disease. Social and psychological dimensions must be formally integrated into the diagnostic and therapeutic framework.
iii. **Social prescribing:** Connection to social support services, respite care, and government support schemes represents an evidence-supported clinical intervention with measurable health benefits.
iv. **Preventive potential:** Early recognition and management of caregiver stress could prevent the progression to established chronic disease, with implications for both individual patients and healthcare resource utilisation.
v. **Healthcare system responsibility:** Health systems must develop and resource pathways for identifying and supporting caregivers as patients in their own right.

8. CONCLUSION

This case underscores the critical role of holistic, biopsychosocial approaches in managing stress-related health problems in long-term caregivers. Chronic psychological stress, if unaddressed, can drive significant physical and mental health morbidity including gastrointestinal disease, systemic fatigue, and musculoskeletal dysfunction. The integration of pharmacological therapy with psychosocial support, lifestyle modification, and social care services can substantially improve patient outcomes and well-being. Primary care physicians are uniquely positioned to identify caregiver burden, address its health consequences, and advocate for the systemic changes needed to support this vulnerable population.

9. Patient Perspective

"I had been caring for my daughter for so many years that I simply forgot to look after myself. Every time I felt unwell, I told myself it was nothing and carried on. When I finally came to see the doctor, I was surprised that someone asked not just about my stomach problems, but about my life, my stress, and how I was coping. Through the counselling and the support I received, I began to understand that my symptoms were connected to everything I had been going through. For the first time in many years, I felt that my health mattered too. The practical help the respite care, the support from the scheme made an enormous difference. I am grateful for a care plan that saw me as a whole person, not just a patient with a list of symptoms."

10. Case Summary Table

Table 2 presents a structured summary of the key clinical, investigative, and management features of this case.

Table 2: Structured case summary of patient demographics, diagnosis, management, and outcome

Parameter	Details
Patient	57-year-old married woman
Primary Complaint	GERD, gastritis, hiatus hernia, IBS, fatigue, musculoskeletal discomfort
Underlying Context	Chronic caregiver stress primary caregiver of daughter (20 years) with cerebral palsy
Duration of caregiving	~20 years; increasing responsibilities over time
Social Support	Government salary scheme for home caregivers (last 5 years)
Investigations	Psychosocial history, nutritional assessment, blood work, imaging, endoscopy planned
Final Diagnosis	Stress-related gastrointestinal disease in context of chronic caregiver burden
Management	Pharmacological (GI), counselling, nutrition, lifestyle, community/social support
Outcome	Significant improvement in GI symptoms, fatigue, sleep, musculoskeletal symptoms, wellbeing

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Patient Consent Statement

Written informed consent was obtained from the patient for the publication of this case report and any accompanying clinical information. The patient was informed of her right to decline participation and of the confidentiality measures in place. No identifying information is disclosed in this report. A copy of the signed consent form is available for review upon request by the journal editor.

Conflict of Interest: The authors declare no conflicts of interest in connection with this case report.

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