



Gastrointestinal Manifestations in Patients with Coronavirus Disease 2019 (COVID-19): Impact on clinical outcomes

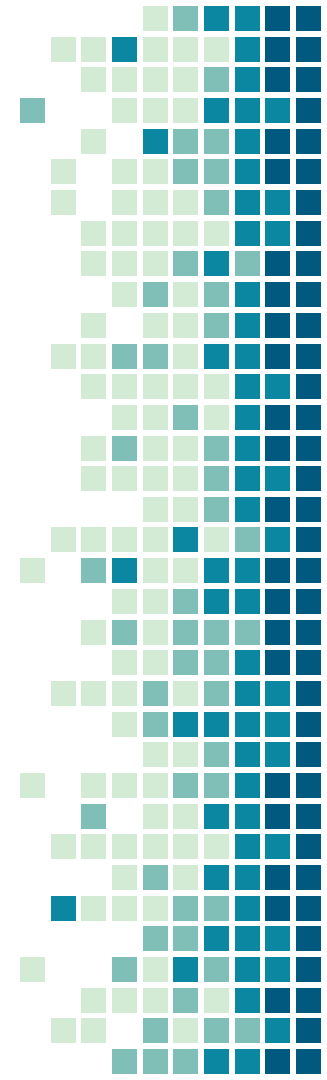
Dr. Elham Tabesh
Assistant Professor of Gastroenterology
Isfahan University of Medical Sciences



Gastrointestinal Manifestations in Patients with Coronavirus Disease 2019 (COVID-19): Impact on clinical outcomes

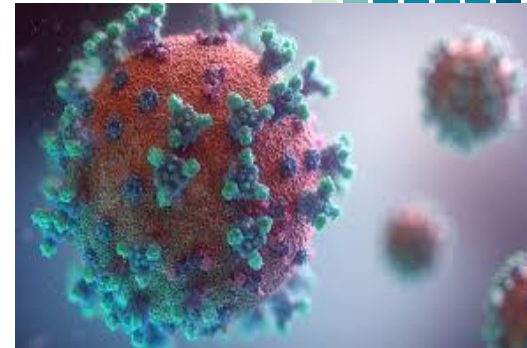
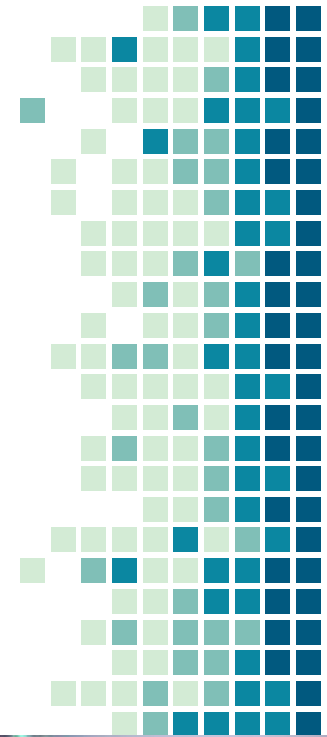
Elham Tabesh, Maryam Soheilipour^{1*} Ramin Sami², Marjan Mansourian³, Faezeh Tabesh⁴, Forogh Soltaninejad⁵, Mehrnegar Dehghan⁶, Nilufar Khademi⁶, Nastaran Sadat Hosseini⁶, Peyman Adibi⁷

1. Assistant Professor, Isfahan gastroenterology and hepatology research center (IGHRC), Isfahan University of Medical Sciences, Isfahan, Iran.
2. Department of Pulmonology, School of Medicine, Isfahan University of Medical Sciences, Isfahan, Iran.
3. Department of Epidemiology & Biostatistics, School of Health, Isfahan University of Medical Sciences, Isfahan, Iran.
4. Cardiac Rehabilitation Research Center, Cardiovascular Research Institute, Isfahan University of Medical Sciences, Isfahan, Iran.
5. Bamdad Respiratory and Sleep Research Center, Isfahan University of Medical Sciences, Isfahan, Iran.
6. Medical Student, School of medicine, Isfahan University of medical sciences, Isfahan, Iran.
7. Professor, Integrative Functional Gastroenterology Research Center, Isfahan University of Medical Sciences, Isfahan, Iran.



Introduction

- In December 2019, the first human cases of COVID-19 were reported in seafood market in Wuhan city, China(1)
- Widespread distribution, aggressive growth, high rate of mortality and infectivity of COVID-19 make it an important pathogen and threat (1, 4).



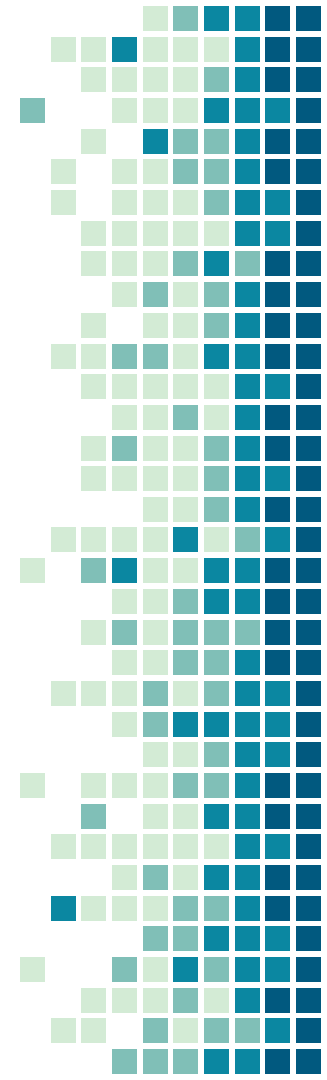
- Although respiratory symptoms are the most common manifestation of the Covid-19, some patients also develop GI symptoms including nausea, vomiting, diarrhea and abdominal pain.
- In this review, we summarize the data on GI involvement in admitted patients to the referral center of the Khorshid Hospital (Esfahan, Iran) and potential association with clinical outcomes.



Methods

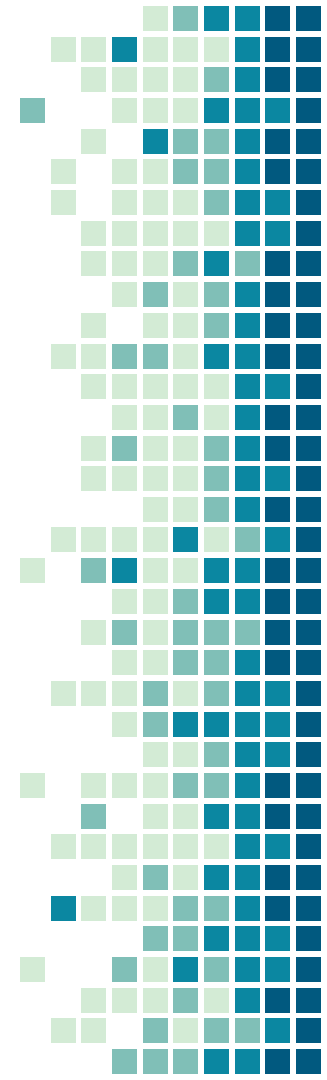
- ❖ We investigated **1113 inpatients** (≥ 18 years old) diagnosed with COVID-19 from March to June, 2020.
- ❖ We collected demographic, clinical information, vital signs, laboratory data, treatment type, and clinical outcomes (discharged and death) from patients' medical records.
- ❖ The data associated with patients with GI symptoms were compared with those of patients without GI symptoms.

- ❑ The illness severity of COVID-19 was defined as the respiration rate $> 30/\text{minute}$ or $\text{SpO}_2 \leq 88\%$.
- ❑ Gastrointestinal symptoms included nausea, vomiting, diarrhea and abdominal pain. To obviate the adverse effects of other medical treatments and external factors, GI symptoms were recorded on admission.

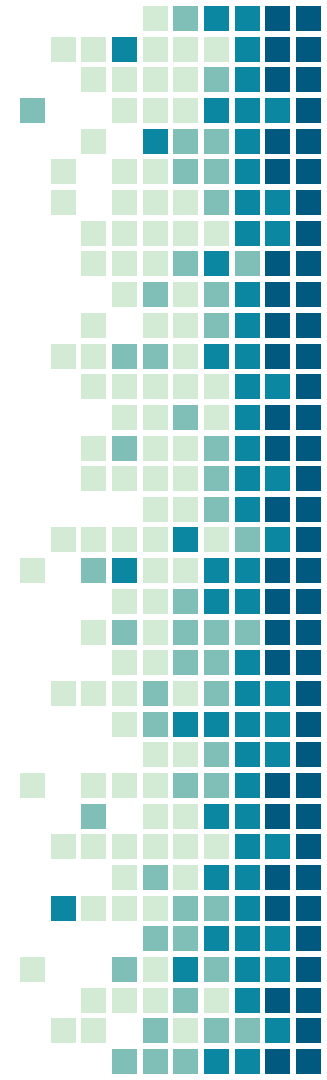


Results

- A total of 1113 patients were recruited (male = 648) .
- GI symptoms were observed in 612 (56.8%) patients (male = 329).
- The most common of which were nausea 387 (34.7%) followed by diarrhea 286 (25.7%), vomiting 260 (23.4%), and abdominal pain 168 (15.0 %).

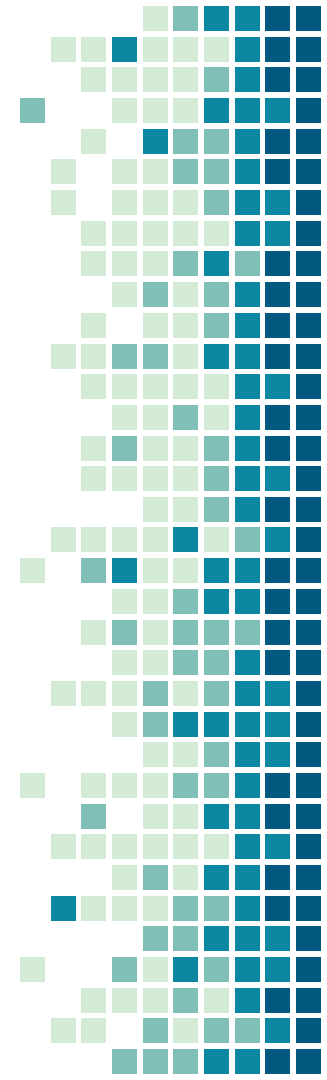


- ❑ The most prominent non-GI signs and symptoms were cough 796 (71.5%), fever 792 (71.2%), shortness of breath 653 (58.7%), and body pain 591 (53.1%).
- ❑ The number of patients who were discharged, died, and were admitted to ICU were significantly different across the GI and non-Gi groups (P= 0.002, 0.009, 0.003) .



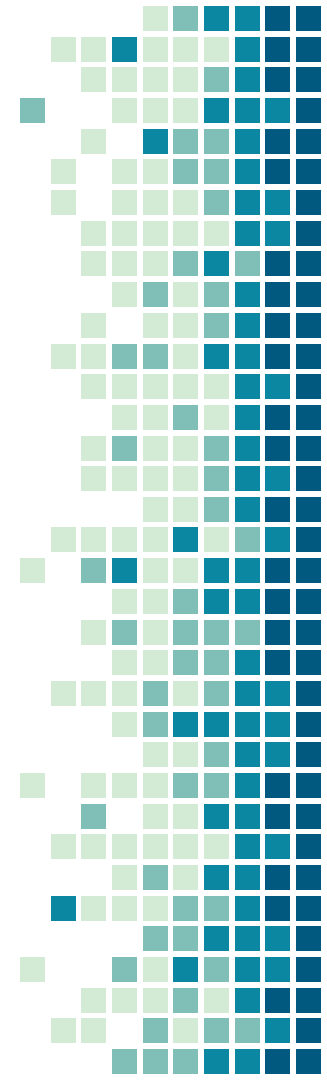
Clinical features of COVID-19 patients with GI symptoms

Variable	All patients	Severe Patients (n=512)	Non severe Patients (n=601)	p-value	OR	95% CI
Nausea	387 (34.7%)	183 (35.7%)	204 (33.9%)	0.530		
Diarrhea	286 (25.7%)	111 (21.7%)	175 (29.1%)	0.005	0.67	(0.51-0.88)
Vomiting	260 (23.4%)	133 (25.9%)	127 (21.1%)	0.057		
Abdominal Pain	168 (15.0%)	59 (11.5%)	109 (18.1%)	0.002	0.58	(0.41-0.82)
Nausea & Vomiting	(18.1%)202	(20.7%)106	(15.9%)96	0.041	1.37	(1.01-1.86)
*Diarrhea & Vomiting	(8.4%)94	38 (7.4%)	(9.3%)56	0.257		
**Diarrhea & Abdominal Pain (Lower GI)	(7.9%)89	(5.2%)27	(10.3%)62	0.002	0.48	(0.30-0.77)
Nausea & Vomiting & Diarrhea	(6.6%)74	(6.6%)34	(6.6%)40	0.992		
Nausea & Vomiting & Abdominal Pain (Upper GI)	(4.6%)52	(5.4%)28	(3.9%)24	0.245		
Nausea & Vomiting & Diarrhea & Abdominal Pain(gastroenteritis)	(2.6%)29	(2.7%)14	(2.4%)15	0.803		

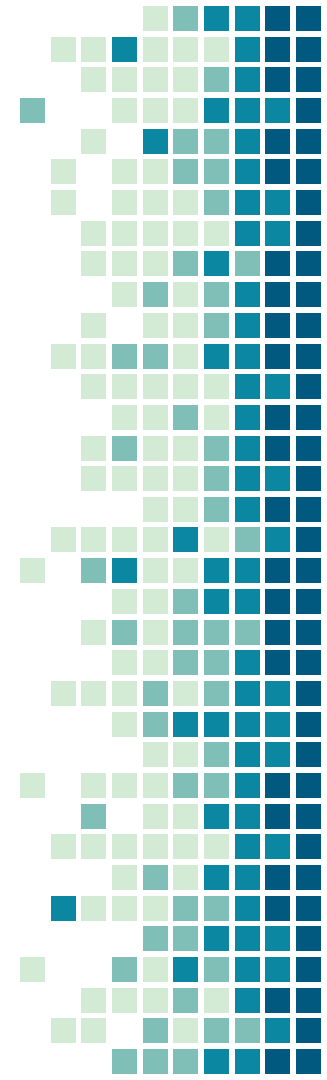


Discussion

- ❑ The prevalence of GI symptoms in our study was similar to those reported by Pan L. et al. and Han C. et al, ranging from 50.5%–61.3% (2, 14).
- ❑ While anorexia was included as a GI symptom in those studies, it was considered as a nonspecific symptom (not a GI symptom) in the present study.

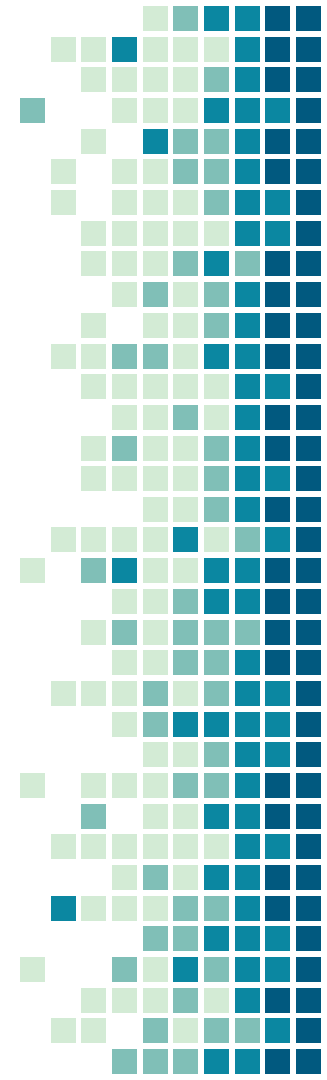


- ❖ In the present study, abdominal pain and diarrhea were prominent in the non-severe group when the symptoms were considered individually, lower GI symptoms and gastroenteritis were more prevalent in the non-severe group when lower GI, upper GI and gastroenteritis were considered collectively.



Conclusion

- ❖ While COVID-19 was predominantly diagnosed in males, GI symptoms were more commonly reported by females.
- ❖ The results indicated that GI symptoms in COVID-19 patients are common, and the symptoms are not correlated with the severity of the disease.



- ❖ Moreover, the presence of GI symptoms was positively correlated to milder disease.
- ❖ Among COVID-19 positive patients, the clinical outcomes (discharge, death, and ICU admission rates) of the GI group were promising, compared to those of the non-GI group.



The results of this study suffer from two limitations:

- ❖ The sample was limited to patients admitted to the Khorshid hospital.
- ❖ We were not able to test stool RNA in the large sample.



thanks

