

A Systematic Review of Digestive Problems in Children and the Elderly Involved in Infectious Diseases, Relying on Nursing and Medical Measures

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Abstract

Children due to their playfulness and the elderly usually have a weak immune system due to underlying diseases and old age. Poor functioning of the digestive system and digestive diseases of children and the elderly can directly affect their growth. Most diseases occur in old age. The cause of this can be wrong lifestyle, environmental factors or genetic factors. But what is important is familiarity with these diseases and ways to prevent their occurrence. In the present study, by examining more than 50 articles according to the key words "Child and elderly immune system", "Genetic factors", "Underlying diseases", it was concluded that digestive problems in children, when they continue, can cause concern. But for most children, many digestive problems arise due to an underdeveloped digestive system or non-rich diets. Dysphagia (difficulty or discomfort when swallowing), gastroesophageal reflux, gastric cancer, irritable bowel syndrome, intestinal obstruction, and constipation are the most common digestive problems in children and the elderly, which may present with various symptoms such as pain, fever, diarrhea, and vomiting. In addition to examining the patient at the bedside, doctors may prescribe various diagnostic methods such as endoscopy and colonoscopy. In summary, digestive problems in the elderly and children can be largely controlled by changing lifestyle and diet in the early stages. But in the middle stages, drug interventions are usually needed for treatment, finally, in the advanced stage of this disease and for the rapid improvement of the patient's condition, it may be necessary to perform surgery in the digestive system.

Key words: Digestive Problems, Child, Elderly, Surgery, Drug Interventions.

Introduction

Digestive issues are especially challenging for the elderly and children, and treating and managing such conditions can be difficult for family caregivers as well [1-3]. Especially if they don't know how to care for loved ones with gastrointestinal disorders [4-6]. The digestive system includes the esophagus [7], stomach [8], small intestine [9], large intestine [10], pancreas and gall bladder [11], any problem and weakness in the normal functioning of each of these parts leads to signs and symptoms in a person, which are called digestive problems [12]. Gastrointestinal problems in the elderly, like in other age groups [13], can have a wide range [14], ranging from basic and mild symptoms to clear and severe symptoms [15]. These problems are usually known as gastroesophageal reflux [16], irritable bowel syndrome [17], lactose intolerance [18], and in severe cases, gastrointestinal cancer [19]. The symptoms of digestive

problems in the elderly and children have different intensities and a wide range from mild to severe [20], when the diagnosis is given at any stage, it needs its own special method [21]. The first person to recognize this problem in patients is the geriatric nurse or someone who cares for the elderly [22]. If an elderly person has these symptoms, it can be a clear sign of a digestive problem [23]. These symptoms include: Bloating, constipation, diarrhea, heartburn, nausea, and the presence of blood in the stool [24].

In the present study, by examining more than 50 articles according to the key words "Child and elderly immune system", "Genetic factors", "Underlying diseases", it was concluded that digestive problems in children, when they continue, can cause concern. But for most children, many digestive problems arise due to an underdeveloped digestive system or non-rich diets.

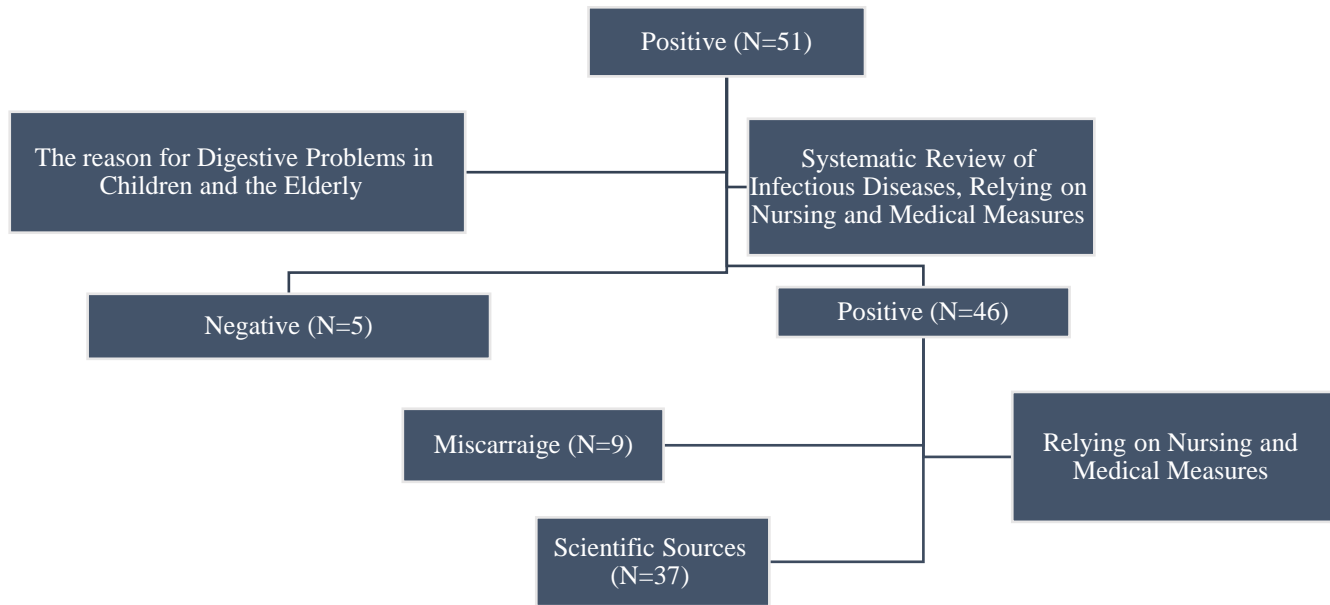


Figure 1. Flow chart of included subjects

Symptoms of digestive diseases in children

Many parents may have heard the phrase "I'm sick" from their children. But if your child often complains of stomach problems, he may have indigestion [25]. These complications can be related reasons for children's digestive problems [26], but most children's digestive diseases have similar symptoms. Symptoms of diarrhea and indigestion: Gastrointestinal tract infections are one of the most common digestive diseases in children. Gastrointestinal tract infections have one symptom among the people around them [27]. Children start the disease with lethargy [28], low temperature [29], mild nausea [30], diarrhea and vomiting.

How are children's digestive diseases diagnosed? Your pediatrician or family doctor can help diagnose and treat digestive problems [31]. Your pediatrician may also refer you to a pediatric gastroenterologist [32]. A specialist who has better training in the diagnosis and treatment of digestive diseases in children. He or she may perform tests to diagnose digestive disorders [33].

Tests related to digestive problems include: Colonoscopy, endoscopy of the upper part of the digestive tract [34], capsule endoscopy [35], ultrasound [36], flexible sigmoidoscopy [37], blood test [38], biopsy [39], CT scan.

How are digestive disorders treated? Treatment depends on the diagnosis, but in general, treatment options include: Proper diet [40], medications prescribed by a doctor [42], surgery, and swallowing therapy [43]. The use of complementary treatments such as medicinal plants and traditional medicine is also effective in reducing the symptoms of these disorders if they are operated under the supervision of a specialist and their arbitrary use is avoided, especially for children [44].

Gastrointestinal diseases and problems in the elderly

One of the most common problems observed among the elderly with increasing age is digestive disorders and problems [45]. Of course, these disorders may occur at any age, but approximately 40% of elderly people experience one or more age-related digestive problems every year. Digestive problems are only one of the diseases that cause discomfort to the elderly [46], the people who take care of the elderly should be familiar with all the diseases that threaten the health of the elderly. This device may malfunction with age [47]. Symptoms of digestive problems in the elderly may include complications such as heartburn, stomach pain and discomfort after eating, gas, changes in bowel habits such as diarrhea or constipation, a feeling of heaviness and distress after meals, and excessive secretion of stomach acid [48]. These symptoms can indicate problems such as stomach ulcers, intestinal

inflammation, under- or over-functioning of the digestive glands, or problems related to nutrient deficiency [49].

The most common digestive diseases of the elderly

Some of the digestive diseases of the elderly that the majority will experience in some way during this period are:

Gastric reflux: Reflux is the abnormal return of stomach contents to the esophagus, which is a common disease that increases in the elderly [50]. Research has found a relationship between overweight and reflux. In case of infection, by following the nutritional tips, the person's tolerance can be increased to a great extent. Heartburn is known as reflux pain, which is often confused with heart pain [51]. Also, sometimes the pain spreads to the back, which most people think of as a simple back pain. Men, obese people, smokers and those who consume alcohol, experience this pain more often [52]. By monitoring the symptoms and helping the elderly to eliminate the undesirable habits that contribute to this disease, the elderly nurse increases the health level of these elderly.

Stomach ulcer: The prevalence of stomach and intestinal ulcers and the resulting bleeding is higher in the elderly than in other people [53]. Chemical, infectious and nervous factors are among the things that cause digestive diseases and stomach ulcers. Of course, the most common cause of gastric ulcer is *Helicobacter pylori* infection, which has attributed 60-70% of gastric ulcer cases to *Helicobacter* [54].

Diarrhea: Elderly people who have decreased ability to move, especially those who are not fully mobile; They suffer from diarrhea more than others. This is if it is determined by conducting examinations that a hardened fecal mass is stuck at the end of the intestine of these people and this mass itself is the cause of the problem [55]. In fact, not only is there no diarrhea, but the person has some kind of blockage in his intestinal tract. In such cases, the elderly are even given anti-diarrhea medicine by the family and friends, which makes this problem acute. To the extent that the person suffers from wounds and bleeding and is sometimes taken to surgery [56].

Constipation: Constipation refers to emptying the bowels less than three times a week. This disease is caused by factors such as inactivity, reduced consumption of water and dietary fibers, especially soluble fibers. Constipation can be solved simply by making changes in the diet such as consuming vegetables, fruits, in moderation, consuming whole grains and also consuming enough water [57].

Irritable bowel syndrome (IBS): Irritable bowel syndrome is one of the most common diseases, which is

very common in children, but it also occurs in the elderly [58]. Women are more prone to this disease than men. Intestinal nerves and muscles are extremely sensitive in this disease, so that they contract strongly after eating and cause diarrhea after eating. Therefore, IBS is a type of digestive disease of the elderly [59].

Diverticulitis: Diverticulitis is a type of digestive disease that is called inflammation of small pouches that are formed in the wall of the large intestine. The cause of these bags is chronic constipation and the use of low-fiber foods. This inflammation is caused by the entry of bacteria or irritants into these cavities [60]. Bloating, nausea, vomiting, constipation or diarrhea, bleeding from the anus, and fever are some of the symptoms caused by the inflammation of these bags [61].

Anemia: Anemia in the elderly may occur due to various causes. But in the elderly, the symptom of many digestive diseases, such as colon tumor in the area of the cecum or the beginning of the colon, is anemia [62]; It is not recommended to take iron tablets and red meat. Because it may cover the symptoms of other diseases [63].

Stomach ulcer in the elderly: Stomach ulcer is one of the problems of the digestive system of the elderly that many elderly people experience. The most important cause of this disease in the elderly is stomach infection or excessive use of some drugs [64]. But there are other causes, some of which are: Excessive consumption of acidic foods, excessive consumption of fast foods, smoking, alcohol consumption, aging, long-term use of arthritis drugs [65].

Fatty liver disease in the elderly: One of the most important digestive problems of the elderly are liver problems. The liver is one of the most important organs of the digestive system, which plays a very important role in the absorption, storage and detoxification of food [66]. Fatty liver disease, which you must have heard of, occurs when the amount of fat in the liver is more than normal. The elderly who suffer from diabetes, high blood pressure, high blood fat or obesity are more at risk of developing fatty liver disease [67].

Gallstones in the elderly: The gallbladder is a small, pear-shaped organ in the digestive system that is located under the liver. This organ stores some of the bile produced in the liver and transfers it to the intestine. Among the problems that may occur to the elderly is the deposition of bile fluids in the gallbladder and the formation of stones in it [68]. Gallstones come in a variety of sizes, and the largest can be the size of a golf ball. If these stones block the entrance of the intestine, they cause unbearable pain.

Discuss

Methods of treating digestive problems

The treatment of diseases related to the digestive system depends on the diagnosis of the type of disease, but in general, the treatment methods include: Nutritional counseling, proper diet, regular use of medicine, swallowing treatment and, if necessary, surgery. Also, herbal medicines and traditional medicine can be mentioned as complementary treatments to reduce the symptoms of these disorders [69].

Dehydration and digestive disorders

Severe dehydration causes problems such as strong smell of urine, concentration of urine, heartburn, nausea and dizziness, liver disease, kidney disease and food allergies and many other cases. You should know that sometimes parents may not notice the child's dehydration. The lack of water in the body of children and even adults have serious consequences that may eventually lead to serious digestive diseases [70].

Methods of diagnosing digestive disorders

To diagnose and treat digestive problems in children, it is better to consult experienced doctors in this field. Ultrasound is one of the first methods for examining the digestive system of children. Colonoscopy, endoscopy, urine test, and blood test are among the other methods used to investigate digestive problems [71].

Avoiding overeating: One of the things that should be mentioned when this disease occurs is to avoid eating too much food. By controlling and observing the child's diet, these problems can be prevented [72].

Eliminate processed foods: Children who have digestive problems should consume food according to the doctor's prescription and the specified diet and meal plan. In fact, all packaged and prepared foods should be removed from their diet [73].

How to prevent digestive problems in the elderly?

Adherence to the points related to diet, physical activity and taking supplements under the supervision of a doctor can prevent many digestive problems in the elderly. Elderly caregivers should include the following in their plan in the field of elderly nutrition.

- Elderly people should avoid high salt foods and nitrate containing foods in their diet;
- Add foods containing antioxidants to your diet [74];
- Include fresh fruits and vegetables in your diet throughout the day. Broccoli prevents the growth of *Helicobacter* bacteria and prevents the formation of tumors and stomach ulcers;

- Have a regular plan for their physical activity and avoid inactivity and inactivity;
- The use of probiotic foods for the elderly in order to relieve constipation and also prevent diseases caused by bacteria [75];
- The elderly should avoid spicy food, especially pepper in their food;
- The use of fish is recommended for the elderly because of the Omega-3 fatty acids in it.

Irritable bowel syndrome is a chronic digestive disorder characterized by symptoms such as abdominal pain, changes in bowel habits (diarrhea, constipation, or both), and bloating. Irritable bowel syndrome has no definite and known cure and it is not surprising that up to 40% of patients with this syndrome use alternative and traditional treatments [76]. Herbal medicines are one of the most common medicines that patients use for this disease. The use of some herbal products such as peppermint oil and ginseng play an effective role in improving IBS symptoms. The use of peppermint can be effective in improving the symptoms of irritable bowel syndrome (IBS). Mint is a medicinal plant with natural properties that is used as one of the common compounds in the treatment of digestive problems [77]. Peppermint has anti-inflammatory and antispasmodic properties (reducing abnormal muscle contractions) that can help reduce abdominal pain associated with IBS. Consuming peppermint can also facilitate the improvement of IBS-related symptoms such as diarrhea, constipation, and bloating. Ginseng is a medicinal plant with natural properties. Research has shown that ginseng can be effective in improving some of the signs and symptoms of irritable bowel syndrome (IBS) [78]. Ginseng can improve IBS symptoms with its anti-inflammatory and anti-anxiety effects.








Research results show that ginger has antioxidant properties and antioxidants help prevent chronic diseases by protecting healthy cells from damage caused by free radicals. Of course, ginger has anti-inflammatory effects. Some medicinal plants such as licorice, chamomile and mint are also effective for calming the stomach. Because chamomile has anti-nausea and anti-inflammatory properties and helps to reduce gas and relieve stomach discomfort [79]. Also, licorice root has properties that strengthen the immune system and helps to treat stomach pain. Plain white rice is easily digested and provides energy because it contains carbohydrates. Boiled or grilled unseasoned, skinless chicken, turkey or fish is easily digested and provides protein and satiety. Oatmeal and whole grains can usually act as a reliever. Oats are a source of soluble fiber that can normalize bowel movements and may be better tolerated than wheat, which is a significant source of insoluble fiber [80]. Chewing sugar-free gum may also help with stomach upset. The results of some

research show that chewing gum for 30 minutes after a meal can be beneficial. Chewing gum increases the secretion of saliva and returns acid to the stomach. Unsweetened applesauce can be a useful short-term diet for people who suffer from stomach upset. Applesauce is gentle on the stomach, although it does contain some fiber. This fiber can be useful in case of diarrhea. Yogurt is an excellent source of probiotics, which are beneficial bacteria that can aid in healthy digestion. It is also an excellent source of important nutrients such as protein and calcium [81]. Of course, fat-free or low-fat yogurt may be better for an upset stomach than high-fat varieties. Ulcerative colitis (UC), which is one of the inflammatory bowel diseases. It is associated with increased inflammation and oxidative stress. Research conducted on saffron has shown that this plant can have anti-inflammatory and antioxidant properties. These features can help reduce inflammation and damage to the intestinal wall and be effective in improving the symptoms of ulcerative colitis. In a study, the effect of saffron supplementation on the serum concentration of inflammatory and anti-inflammatory markers and the quality of life of patients with UC was investigated. This

clinical trial was conducted on 80 patients with mild to moderate ulcerative colitis. The intervention group received 100 mg of saffron per day and the placebo group received 100 mg of malt dextrin per day. Eight weeks of saffron supplementation led to a significant decrease in the serum levels of TNF- α and CRP and a significant increase in the level of IL-10 in patients compared to the placebo group [82]. Also, a significant decrease in ESR and IL-17 levels was seen in both groups [83]. The findings of this study showed that consuming saffron for eight weeks along with medicine can reduce the level of some inflammatory cytokines in patients with ulcerative colitis [84]. The most herbal researches for the treatment of liver diseases have been conducted around the milk thistle plant [85]. Its active compounds are collectively known as silymarin. Several studies have shown that the consumption of silymarin reduces liver enzymes AST and ALT [86]. Silymarin can also modulate apoptosis (programmed cell death) by interfering with the expression of cell cycle regulators and proteins related to apoptosis, and thus exert its anti-cancer effect [87]. In addition to anti-metastatic activity, silymarin also has anti-inflammatory activity [88].

Table 1. Forest Plot Digestive Problems in Children and the Elderly Involved in Infectious Diseases, Relying on Nursing and Medical Measures

Raw	Study	Year		Proportion	Wight 98%	Weight %
1	Abdollahi et al.	2014		0.92	[0.39 – 1.06]	2.03
2	Afshari et al.	2022		0.87	[0.54 – 1.02]	2.02
3	Ahmadi et al.	2020		0.88	[0.63 – 1.01]	3.57
4	Akhlaghdoust et al.	2019		0.60	[0.25 – 1.08]	3.13
Heterogeneity $t^2=0.02$, $I^2= 0.00$, $H^2=1.02$				0.95	[0.22 – 1.07]	
Test of $\Theta= \Theta$, $Q (4) =5.55$, $P= 0.74$						
1	Aldulaim et al.	2022		0.84	[0.27 – 1.08]	3.08
2	Azarpey et al.	2023		0.76	[0.52 – 0.99]	3.82
3	Beiranvandi et al.	2022		0.11	[0.54 – 0.89]	2.85
4	Danesh et al.	2022		0.39	[0.12 – 0.99]	4.09
Heterogeneity $t^2=0.14$, $I^2= 0.11$, $H^2=0.42$				0.77	[0.19 – 1.00]	
Test of $\Theta= \Theta$, $Q (4) =3.35$, $P= 0.34$						
1	Eskandar et al.	2020		0.92	[0.39 – 1.06]	4.03
2	Imani et al.	2023		0.87	[0.54 – 1.02]	2.33
3	Irajan et al.	2016		0.99	[0.63 – 1.01]	3.50

4	Jamali et al.	2022		0.68	[0.25 – 1.08]	2.03
Heterogeneity $t^2=0.14$, $I^2= 0.00$, $H^2=1.02$				0.87	[0.22 – 1.07]	
Test of $\Theta= \Theta$, $Q (4) =3.55$, $P= 0.12$						
1	Mahmoudi et al.	2022		0.84	[0.27 – 1.08]	2.08
2	Mirakhori et al.	2022		0.76	[0.52 – 0.22]	3.82
3	Nabiuni et al.	2023		0.11	[0.54 – 0.89]	3.85
4	Naghdipour et al.	2021		0.39	[0.12 – 0.99]	2.09
Heterogeneity $t^2=0.19$, $I^2= 0.09$, $H^2=0.16$				0.77	[0.19 – 1.00]	
Test of $\Theta= \Theta$, $Q (4) =3.11$, $P= 0.04$						

Conclusion

The most important point in preventing digestive problems is maintaining a healthy lifestyle and adjusting the expectations of the digestive system according to the patient's age. It is far-fetched to expect an old man or a child to have the same nutrition as a young man. It is not reasonable to expect different and heavy foods to be digested with the right speed and quality. Drinking a lot of water to keep the body hydrated, reducing fats and increasing fibers in the daily diet, maintaining a healthy weight and regular physical activity (if possible) are the most important points that prevent the elderly and children from facing digestive problems. Some diseases and digestive problems are more common in a certain group of people; For example, some people genetically have a weaker stomach and digestive system, and for this reason, they have a high probability of contracting these diseases. Also, children with autism are prone to digestive problems, and parents of autistic children should control and take care of these conditions. To treat digestive problems with traditional medicine, you may be able to overcome digestive problems with treatment and lifestyle changes. Some gastrointestinal illnesses can be long-term, but medications can help ease symptoms. Thin soups like chicken soup are easily digestible and provide vitamins, protein and other nutrients that the body needs. If you suffer from vomiting or diarrhea, soups can help keep you hydrated. Simple bread considering that a person with an upset stomach may not have much appetite, he can consume light foods that are easy to digest to meet his daily needs. Ginger. If you suffer from nausea, ginger can help ease the symptoms.

References

1. H Shahoon et al, Evaluation of cytotoxicity of hydroxyapatite nanoparticles on L929 fibroblast cells, Daneshvar medicine, 2020, vol 19, issue 4, 27-34.
2. Afshari A, et al. Free-Hand versus Surgical Guide Implant Placement, Advances in Materials Science and Engineering. 2022; 2022: 6491134.
3. Ahmadi SAY, et al., Current Pharmacogenomics and Personalized Medicine, 2020 17(3) 197-205
4. R Masaeli et al, preparation, characterization and investigation of in vitro and in vivo biological properties of strontium-modified; Materials science and Engineering; c, 2016, vol 69, 780-788.
5. Aldulaim AKO, et al., The Antibacterial Characteristics of Fluorescent Carbon Nanoparticles Modified Silicone Denture Soft Liner. J Nanostructures 2022; 12(4); 774-781.
6. Fatos et al, Challenging clinical presentation of zinner syndrome; Radiology case Report journal, 2023, vol 18, issue 1, 256-259
7. Aldulaimi AKO, et al. Synthesis of New Antibiotic Agent Based on Mannich Reaction. Int J Drug Deliv Technol 2022; 12(3); 1428-1432.
8. Ilir Ahmetgjekaj et al, Annular pancreas: Beneath the intestinal obstruction_A case report, Radiology case Report journal, vol 18, issue 3, 1364-1367
9. Al-Makki A, et al. Hypertension pharmacological treatment in adults: a World Health Organization guideline executive summary. Hypertension. 2022; 79:293–301.
10. Global incidence of surgical site infections following caesarean section: a systematic review and meta-analysis, M Farid Mojtabehi et al, National center for Biotechnology information, 2023, vol 139, 82-92.
11. Azarpey A, et al., Bariatric surgery and secondary hyperparathyroidism; a mini-review, Journal of Parathyroid Disease 2023, 11, e11238
12. R Jamali et al, Evaluation of the changes in serum levels of ast, alt and ALKP before and after two cyclosporine regimens, Mycophenolate mofetil, and tacrolimus, mycophenolate mofetil in Kidney transplant patients admitted to sinai hospital from 2016 to 2018,

- journal of pharmaceutical negative result,vol.13,si 09,2022.
13. Azziz SSSA, et al. Secondary metabolites from leaves of polyalthia lateriflora and their antimicrobial activity. *Int J Res Pharm Sci* 2020;11(3): 4353-4358.
14. Mahdi Rezaei et al, Mesenchymal stem cell therapy for Alzheimers Disease: A review of Msc-Derived Extracellular vesicles in clinical and preclinical models, *journal of pharmaceutical negative result* ,vol 13,si 09,2022
15. Bauer P. R., et al. (2022). Plasma exchange in the intensive care unit: a narrative review. *Intensive Care Med.* 48, 1382–1396.
16. Beiranvandi F, et al., Investigation of Medical Services in Patients with Diabetes And Cardio-Vascular Disease & High Blood Pressure In ICU With Radiological & Pathology Point: The Original Article, *Journal of Pharmaceutical Negative Results*, 2022; 4417-4425
17. Bonyadi M, et al., Mutation analysis of familial GJB2-related deafness in Iranian Azeri Turkish patients, *Genetic testing and molecular biomarkers*. 2009; 13: 689–92.
18. Bouloukaki I, et al. Mild obstructive sleep apnea increases hypertension risk, challenging traditional severity classification. *J Clin Sleep Med*. 2020; 16:889–898.
19. Ali Shariati et al, Advancements in Mesenchymal stem cell therapy for stroke: promising clinical outcomes and potential pole of Extracellular vesicles, *journal of pharmaceutical negative result* ,vol 13,si 08,2022.
20. Dargahi R, et al., *International Journal of Women's Health and Reproduction Sciences*. 2021; 9(4):268-273.
21. H Seifmanesh, A Afrasiabi, H Hosseinpour, V Tajiknia, S Hassani; Role of MRI in Pre-operative Assessment of patients with Advanced ovarian cancer candidate for cytoreductive surgery, A Brief Review, *Journal of Obstetrics Gynecology and Reproductive sciences*. 2022; 5(9)
22. Eskandar S, Jalali P. Relationship between patent foramen ovale and COVID-19 in patients admitted to an intensive care unit, *Revista espanola de cardiologia (English ed.)*. 2020; 74(8): 725–726.
23. The Effect of Uterine Contractions on Fertility Outcomes in Frozen Embryo Transfer Cycles: A Cohort Study
24. Fard MM, Fard AM, Investigation of drug release from a biodegradable biphasic polymer system, *Eurasian Journal of Science and Technology*, 2022; 2; 1-13
25. The Effect of Uterine Contractions on Fertility Outcomes in Frozen Embryo Transfer Cycles: A Cohort Study
26. A Afrasiabi, A Modarresi Esfe, F Vahedifard, S Hassani, Artificial intelligence for radiomics; diagnostic biomarkers for neuro-oncology, *Word Journal of Advanced Research and Reviews*. 2022; 14(3):304-310.
27. AH Maleki, A Gholami, M Mohammadi, A Farhoudian, S Hassani; Investigation of medical services in patients with Diabetes, cardio-vascular and Rheumatology disease in ICU, *Journal of pharmaceutical Negative Results*. 2022; 13(10):4137-4158
28. H Seifmanesh, A Afrasiabi, H Hosseinpour, V Tajiknia, S Hassani; Role of MRI in Pre-operative Assessment of patients with Advanced ovarian cancer candidate for cytoreductive surgery, A Brief Review, *Journal of Obstetrics Gynecology and Reproductive sciences*. 2022; 5(9)
29. Irajian M, Faridaalae G. Establishing a Field Hospital; a Report on a Disaster Maneuver, *Iranian Journal of Emergency Medicine*. 2016; 3(3): 115-118.
30. Z Chakeri, S Hassani, SM Bagheri, A Salmanipour, N Maleki; Child Thoracic osteoid osteoma; case presentation, Review of Radiology and Management case Report, *Journal of clinical and medical images*. 2022; 2(3)
31. Jaleesi M, et al., Endoscopic repair of transsellar transsphenoidal meningoencephalocele; case report and review of approaches, *Interdisciplinary Neurosurgery*, 2015; 2 (2), 86-89
32. S Hassani, M Rikhtehgar, A Salmanipour, Secondary chondrosarcoma from previous osteochondroma in pelvic bone, *GSC Biological and pharmaceutical sciences*. 2022; 19(3):248-252
33. Kareem HA, et al. Synthesis and Characterization of COFe₂O₄ Nanoparticles and Its Application in Removal of Reactive Violet 5 from Water. *J Nanostructures* 2022; 12(3):521-528.
34. Conservative Management of Cervical Pregnancy with the Administration of Methotrexate and Potassium Chloride: A Case Report
35. Kheradjoo, H., et al., Mesenchymal stem/stromal (MSCs)-derived exosome inhibits retinoblastoma Y-79 cell line proliferation and induces their apoptosis. *Nanomedicine Research Journal*, 2022; 7(3): 264-269.
36. Effectiveness of a mixed lifestyle program in couples undergoing assisted reproductive technology: a study protocol
37. Mahmoudi H, et al., *Nanomedicine Research Journal*, 2022, 7(3), 288-293,
38. Anti-mullerian hormone levels before and after ovarian drilling in polycystic ovary syndrome: has this an effect on fertility?
39. Milanifard M, Weakness and Irritability, *GMJ Medicine*, 2021 5 (1), 391-395
40. Transition nuclear protein 1 as a novel biomarker in patients with fertilization failure
41. Mirakhori F, et al., *Journal of Pharmaceutical Negative Results*, 2022, 1889-1907
42. Mohammadi G, I Seifi, SJ Barbin, E Zarei, R Tavakolmoghadam, *Tobacco Regulatory Science (TRS)*, 2022, 2064-2084
43. Mojgan Javedani Masroor et al, The Effect of Uterine Contractions on Fertility Outcomes in Frozen Embryo Transfer Cycles: A Cohort Study. *Journal of The National Center for Biotechnology Information*, 2023 Apr-Jun; 24(2): 132–138.
44. Moharrami M, Nazari B, Anvari HM. *Trauma Monthly*. 2021; 26(4):228-234.

45. A Azarpey et al, Bariatric surgery and secondary hyperparathyroidism;a mini-review,Journal of parathyroid disease,2023,vol 11(1):e11238-e11238
46. Motamedi T, et al., Investigating the Causes of Re-Laparotomy Surgery in the Field of Gastrointestinal Cancer in Patients Referred to Rasul Akram (PBUH) Educational and Therapeutic Complex During, Eurasian Journal of Chemical, Medicinal and Petroleum Research, 2023; 2 (1); 37-46
47. SH Mashaei et al, Rhabdomyolysis in covid 19 infection:A sestematic review and meta Analysis; international journal of special education,2022,vol 37(03):12618-12625
48. Nabiuni M, et al., The Impact of Social Networks on Enhancing Safety and Efficacy Outcomes in Low-Dose Rituximab Treatment for Central Nervous System Demyelinating Diseases, Interdisciplinary Journal of Virtual Learning in Medical Sciences, 2023; 14 (3); 206-215
49. SH Mashaei et al, Respiratory physiotherapy and respiratory therapies in patients with covid 19 :A systematic review and meta analysis;international journal of special education,2022,vol 37(03):12655-12662
50. SAA Mousavi chashmi et al ,plastic, Reconstructive and burn surgery with a clinical Approach;2022,vol 1:140
51. Naghdipour Mirsadeghi M, et al., Pain Perception at Birth depending on the Personality of the Parturient Women, Journal of Obstetrics, Gynecology and Cancer Research (J Obstet Gynecol Cancer Res), 2022; 7(6); 543-547
52. SAA Mousavi chashmi,A comprehensive Book on wounds based on the diagnosis and treatment of all tipes of wounds ;2023,vol 1:132
53. Noroozi Seyed Hosseini H, Imani R, Sumra B, et al. The effects of omega-3 and omega-6 fatty acids on the mental and physical health of children, adolescents, and adults. Authorea. 2023.
54. SAA Mousavi chashmi, A comprehensive overview of the diagnosis and treatment of wounds based on the tips of various dressings and surgical methods;2023,vol 1:116
55. Otaghvar HA, et al., Prevalence of Delirium and Its Related Factors in Burn Patients; a Systematic Review and Meta-Analysis, Archives of Academic Emergency Medicine, 2024; 12 (1); e7-e7
56. Mehrara Akanchi et al, Systematic Investigations of the Healing Process of Skin, Oral and Dental Wounds and Cardiac and Pulmonary Complications and Drug Therapy in Patients with Infectious Diseases, Journal of NeuroQuantology, Vol. 20, Iss. 8, (2022): 3015 – 3031
57. Palagini L, Manni R, Aguglia E, Amore M, Brugnoli R, Girardi P, et al. Expert opinions and consensus recommendations for the evaluation and management of insomnia in clinical practice: Joint Statements of Five Italian Scientific Societies. Front Psychiatry. 2020; 11:558.
58. Fatemeh Abedipour et al, A Review of Drug-resistant Tuberculosis, Risk Factors and TB Epidemiology and Incidence in Sistan and Baluchestan Province, European Journal of Molecular & Clinical Medicine;2020,7(11)
59. N Esmailpoor et al, Investigating HIV/AIDS Patients' Immune Response to Hepatitis B Vaccination, J Shahrood Univ Med Sci Journal,2010,5:1-4
60. Maryam Roham et al, comparison of Effective Factors on Student and Professor Communication and Education from the Perspective of Residents and Interns of Iran University of Medical Sciences, Education Strategies in Medical Sciences journal;2018,11(3), 37-44
61. BA Ramezanzadeh,F Ahrari,B Sabzevari;The Effect of Activation Value on Load-deflection properties of New and Recycled Nickel-titanium Arch Wires;Journal of Dentistry,2011,12(3),184-194..
62. F Sardari,M Ghavam Nasiri, N Amini,B Sabzevari;Shear bond strength of amalgam to dentin using different dentin adhesive systems;Journal of Dental Medicine,2012,25(3),211-216
63. Yahaghi E, et al., Helicobacter pylori in vegetables and salads: genotyping and antimicrobial resistance properties, BioMed Research International. 2014 12;2014: 757941.
64. Visseren FLJ, Mach F, Smulders YM, Carballo D, Koskinas KC, Bäck M, Benetos A, Biffi A, Boavida JM, Capodanno D, et al. 2021 ESC guidelines on cardiovascular disease prevention in clinical practice. Eur Heart J. 2021; 42:3227–3337.
65. Unger T, Borghi C, Charchar F, Khan NA, Poulter NR, Prabhakaran D, Ramirez A, Schlaich M, Stergiou GS, Tomaszewski M, et al. 2020 International Society of Hypertension global hypertension practice guidelines. Hypertension. 2020; 75:1334–1357.
66. F Zahedipour, S Rahimian,F Mirjalili,A Dehghani soltani,B Sabzevari;Diagnosing Tooth Root Resorption with cone beam computed tomography after six months of fixed Appliance orthodontic treatment and its Relationship with Risk Factors;Tobacco Regulatory Science(TRS),2022,8(1),2855-2868.
67. Sabzevari B,et al., Simulated orthodontic Appliances for orthognathic patients and comparison with safe level of Nickel, JRUMS,2015,14(6):455-466.
68. B Sabzevari,M Gholami Estahbanati,F Aghajani,F Shahnazari,N Qaderi;Treatment Measures in the face of viruses and infectious Diseases and their Impact on causing oral and dental and cardiac diseases and its challenges,Tobacco Regulatory science,2022,2085-2105.
69. Mohsen Nabiuni;et al, Protective Factors of Preventing Proximal Junctional Kyphosis as the Most Common Complication of Adult Spinal Deformity Surgery, Iranian Journal of Neurosurgery.2023;9:15
70. Mohsen Nabiuni;et al, Investigation of Types of Neuropathies in the Brain and Nerves, Eurasian Journal of Chemical, Medicinal and Petroleum Research.2023;2(5):1-15
71. Masoumeh Najafi;et al, Clinical Effects of Immuno-Oncology Therapy on Glioblastoma Patients: A

- Systematic Review, Brain Sciences Journal.2023;13(2):159
72. Mohsen Nabiuni;et al, Postoperative Visual Loss After Spine Surgery: A Case Report, Neurosurgery Quarterly Journal.2014;24(2): 94-97
73. Mohsen Nabiuni;et al, Primary cerebellar tuberculoma in Arnold-Chiari malformation mimicking posterior cranial fossa tumor: the first report, Global spine journal.2011;1(1): 019-021
74. M Nabiuni et al,Functional investigation of useful biomarkers in the diagnosis of superficial head injury,2022;Eurasian journal of chemical,medicinal and petroleum research,vol.1(5):99-110
75. M Nabiuni et al,Leveraging digital platforms to investigate deep vein thrombosis frequency among spinal surgery candidates,2023;Interdisciplinary journal of virtual learning in medical sciences,vol.14(4):294-300
76. M Nabiuni et al,The impact of social networks on enhancing safety and efficacy outcomes in low-dose Rituximab treatment for central nervous system demyelinating diseases,2023; Interdisciplinary journal of virtual learning in medical sciences,vol.14(3):206-215
77. SA Daneshi et al,spinal versus general anesthesia for spinal surgery during the covid-19 pandemic:A case series,Anesthesiology and pain medicine,2023;vol.13(2) (2)
78. A Tabibkhooei et al,the effect of Autologous PRP on Postrolateral Arthrodesis after Lumbar spine posterior stabilization surgery,2023;Iranian journal of neurosurgery,vol.9
79. M Nabiuni et al,Review paper protective factors of preventing proximal junctional kyphosis as the most common complication of Adult spinal deformity surgery,2023
80. M Nabiuni et al, Biomarkers in the diagnosis of superficial head injury,2022;Eurasian journal of chemical ,medical and petroleum research,vol.1(5):99-110
81. H Shahoon et al, Comparison of the human bone matrix gelatin(HBMG) WITH AUTOGENOUS BONE GRAFT IN RECONSTRUCTION OF THE PARIETAL BONE DEFECTS IN RAT:a histological and radiographic study,Journal of dental Research, dental clinics,dental prospects,vol 3, issue 2,37
82. H Shahoon et al,Multi vesicular osseous hydatid disease of the mandible-a case report,Iranian journal of parasitology,2010,vol 5,issue 1,55
83. M Yaghmaei et al,comparison of betadine and normal saline in the irrigation of tooth socket on the complications after surgical removal of impacted wisdom teeth,Journal of dental school shahid Beheshti university of medical science,2006,vol 23, issue 466, 683-688
84. H Shahoon et al, Evaluation of hydroxyapatite nano particles on the human peripheral blood mononuclear cells: An in vitro study; J Medwell journal,2010,vol 512,764-768
85. H Shahoon et al, Evaluation of Nano silver particles cytotoxicity on L929 fibroblast cells by MTT assay:an in vitro study, Journal of Research in dental sciences. 2011;vol 8,issue 2:53-59
86. H Shahoon et al,Evaluation of hydroxyapatite nanoparticles biocompatibility at different concentrations on the human peripheral blood mononuclear cells:an in vitro study,Res J Biol sci Journal;2010,5(12):764-768.
87. H Shahoon et al, Comparison of the Efficacy of the BMP-2 Along with Nanosilver and Nanotitanium on Ectopic calcification of the Rectus Abdominis muscle of rats;Journal of pharmaceutical negative results,2022;13(09):4368-4376
88. Pourhanifeh MH, et al., Clinical application of melatonin in the treatment of cardiovascular diseases: current evidence and new insights into the cardioprotective and cardiotherapeutic properties. Cardiovasc Drugs Ther. 2020.