INTRODUCTION

Chronic constipation is a common complaint heard in clinical pediatrics ***(Faigel, 2002)***. Chronic constipation is defined as delay or difficulty in defecation, present for 2 weeks or more, and sufficient to cause significant distress to the patient. For practical clinical purposes constipation is generally defined as infrequent defecation, painful defecation, or both. In most, cases the parents are worried that their child's stools are too large, too hard, not frequent enough, and / or painful to pass ***(Stephen Borowitz, 2010).***

Constipation in children is an extremely common problem with reported prevalence rates between 1-30% **(*van den Berg et al., 2006).*** Constipation is the principal complaint in 3-5% of all visits to pediatric outpatient clinics and as many as 35% of all visits to pediatric gastroenterologists ***(Borowitz et al., 2005)***.

Furthermore, longitudinal data from the USA demonstrated nearly 4 fold rise in rates of constipation during the last decade and the majority of ambulatory care visits for constipation were in children under 15 years ***(Everhart et al., 2009)***.

Constipation can be classified as primary, secondary depending on whether an underlying cause is present, such as primary constipation as idiopathic constipation, secondary constipation as systemic illness or the side effect of a medication such as anticholinergics, analgesics, iron supplements and Ca preparations. Systemic illness may cause constipation from metabolic diseases for example (e.g. thyroid disease, diabetes), systemic sclerosis, neurological disease, which may be either

central (e.g. spinal cord injury) or peripheral (e.g. Hirschsprung disease) ***(Daher et al., 2001)***.

In most children (90%), constipation is idiopathic that is without objective evidence of a pathological condition. However, cow's milk allergy or intolerance should be considered as a cause of chronic refractory constipation in children (***Benninga et al., 2004).***

The most common cause of constipation is idiopathic constipation, which has also been called functional constipation, functional fecal retention, and withholding constipation ***(Baker et al., 2001).*** Idiopathic constipation most commonly is due to painful bowel movement with resultant voluntary withholding of feces by a child who wishes to avoid an unpleasant defecation. Many events can lead to painful defecation such as fault toilet training, changes in routine or diet, stressful events, intercurrent illness, unavailability of toilet or postponing defecation because the child is too busy. They can lead to prolonged fecal stasis in the colon, with reabsorption of fluid and an increase in the size and consistency of stools ***(Partin et al., 1992).*** When the desire to pass stool comes, children adopt retentive posture, hide from parents till the urge pass off. Passage of this fecal mass is painful and sometimes results in anal fissures which further aggravate pain and precipitate stool withholding. This sets up a vicious cycle of stool retention. Accumulation of stools in rectum causes gradual dilatation leading megarectum resulting in loss of rectal sensation and urge for defecation ***(Borowitz et al., 2003)***. Several studies have demonstrated, slow colonic transit in 25% - 69% children with idiopathic constipation ***(Gutierrez et al., 2002).*** Furthermore, those with slow colonic transit constipation had more symptoms including night time soiling. Laparoscopic biopsies of the

colon have shown deficiency of neurotransmitters such as substance **P** in some children ***(Stanton et al., 2003)***.

In addition to colonic distention, abdominal discomfort, gas formation and painful defecation, recent studies have confirmed that chronic constipation may have deleterious effects on the growth, development and general well being of children ***(Chao et al., 2008)*****.** The majority of patients with functional dyspepsia were also diagnosed with functional constipation and that improving bowel habits improves dyspeptic symptoms ***(Boccia et al., 2008)*****.**