

Treatment CQ 3–1. An RCT comparing the efficacy of soluble fiber (psyllium, ispaghula), insoluble fiber (bran), and placebo in IBS patients revealed that soluble fiber significantly improved abdominal pain and discomfort compared with placebo [94]. In western countries, several RCTs have revealed that a low fermentable, oligosaccharides, disaccharides, monosaccharides, and polyols (FODMAP) diet appears to be more effective than standard dietary advice for IBS patients [87, 88]. The utility of probiotics in the treatment of IBS has been investigated in a large number of intervention studies including many high-quality systematic reviews, meta-analyses, and RCTs [113–122], but the results were somewhat inconsistent. With regard to dopamine D2 blocking agents, small-scale RCTs [106, 107] investigated the efficacy of domperidone in IBS patients and found no beneficial effect of this agent on gastrointestinal symptoms. In other countries, several small-scale RCTs [108–110] and meta-analyses [103, 111] of anticholinergic agents indicate that anticholinergic agents are effective in improving gastrointestinal symptoms including abdominal pain, although some reports do not appear to show improvement in overall symptoms [104, 112]. In addition, a systematic review of 14 randomized studies reported that 1 h of yoga every day for 4 weeks, 0.5 h of walking almost every day for 12 weeks, and 0.5 to 1 h of aerobic exercise significantly improved IBS symptoms [91]. The efficacy of trimebutine maleate in patients with IBS was investigated in several small-scale RCTs [98–101] and meta-analyses [102, 103] conducted overseas. Eliminating foods that exacerbate IBS symptoms, such as lipids, caffeine, spicy food, and milk and dairy products, is effective in managing IBS. It functions under acidic conditions as soluble fiber by absorbing water and thus potentially improving stool consistency [92]. In Japan, tiquizium bromide, butylscopolamine bromide, timentidium bromide hydrate, and mepenzolate bromide have all been used as anticholinergic agents for the treatment of abdominal symptoms in IBS patients. If symptoms worsen after taking a particular meal, eliminating culprit foods from the diet is necessary, such as foods with high-fat content, caffeine, spicy foods, and milk and dairy products. In a Japanese phase III randomized controlled study, polycarbophil calcium was superior to trimebutine maleate in efficacy and equal in safety [93]. This discrepancy in results may be attributable to methodological differences among trials, such as the type of probiotic used, duration of treatment, and outcome. This drug appears to improve gastrointestinal symptoms including abdominal pain in IBS patients, although no overall improvement was observed. Comment: Trimebutine maleate acts on the peripheral  $\mu$  and  $\kappa$  opioid receptors [96] and is a representative gastrointestinal modifier [97]. Also, no clinical evidence is available on the efficacy of neostigmine or itopride in IBS patients. Some studies with probiotics versus placebo found an improvement in global symptoms with probiotics, while others failed to demonstrate a clear effect of probiotics. Comment: Twelve weeks of exercise significantly improved the symptoms and extraintestinal manifestations of IBS in 102 patients [89]. CQ 3–2