

nausea and vomiting, showing an efficacy of 50% at 5 years [390] and 10 years [391] in an intention-to-treat analysis. Non-invasive vagus nerve stimulation performed for 4 weeks in patients with idiopathic gastroparesis significantly improved nausea/vomiting but there was no control group [392].

Hypnotherapy (gut-directed hypnotherapy, 3-month intervention period) is more effective than standard medical treatment in reducing nausea symptoms in children with functional nausea during treatment and at the 6-month follow-up visit, but not at the 12-month follow-up evaluation [393, 394]. Hypnosis is of interest in the management of anticipatory nausea and vomiting [395] and nausea and vomiting in cancer therapy [396] or pregnancy [397] and could be extrapolated to CNVS in adults. Hypnotherapy could possibly be used to treat early-life trauma with hypno-analysis. One study suggested that acupressure wristbands were ineffective in relieving nausea and vomiting in hospice patients [398]. Most studies of complementary and alternative therapies for nausea and vomiting have been performed in the setting of chemotherapy and anticipatory nausea and vomiting. Treatments investigated have included behavioural therapies, acupuncture, and ginger, but it is unclear if such strategies can be extrapolated to patients not undergoing chemotherapy [399]. An integrative healthcare model with heartfulness meditation and care coordination improved outcome in CVS [400] but data are lacking in CNVS.

#### 4.5.9 | Pharmacological Treatment Options

**Statement 83.** Histamine H1 antagonists (e.g., meclizine, promethazine) are effective for the treatment of chronic nausea and vomiting.

*Statement Endorsed in R2, median panel: 4—Appropriate/neutral*

*Quality of evidence: low*

**Statement 84.** Muscarinic M1 antagonists (e.g., scopolamine) are effective for the treatment of chronic nausea and vomiting.

*Statement Endorsed in R2, median panel: 3—Uncertain/disagreement*

*Quality of evidence: low*

**Statement 85.** Dopamine-2 antagonists are effective for the treatment of chronic nausea and vomiting.

*Statement endorsed in R1, median panel: 4—Appropriate/agreement*

*Quality of evidence: low*

**Statement 86.** 5-HT3 antagonists are effective for the treatment of chronic nausea and vomiting.

*Statement endorsed in R1, median panel: 4—Appropriate/agreement*

*Quality of evidence: low*

**Statement 87.** Tricyclic antidepressants are effective for the treatment of chronic nausea and vomiting.

*Statement endorsed in R1, median panel: 4—Appropriate/agreement*

*Quality of evidence: low*

**Statement 88.** Mirtazapine is effective for the treatment of chronic nausea and vomiting.

*Statement endorsed in R1, median panel: 4—Appropriate/agreement*

*Quality of evidence: low*

**Statement 89.** Gabapentin is effective for the treatment of chronic nausea and vomiting.

*Statement endorsed in R2, median panel: 3—Uncertain/disagreement*

*Quality of evidence: low*

**Statement 90.** Olanzapine is effective for the treatment of chronic nausea and vomiting.

*Statement endorsed in R2, median panel: 4—Appropriate/neutral*

*Quality of evidence: low*

**Statement 91.** Cannabinoids are effective for the treatment of chronic nausea and vomiting.

*Statement endorsed in R2, median panel: 3—Uncertain/neutral*

*Quality of evidence: low*

**Statement 92.** NK-1 antagonists are effective for the treatment of chronic nausea and vomiting.

*Statement endorsed in R1, median panel: 4—Appropriate/agreement*

*Quality of evidence: low*

The pharmacological treatment of CNVS has been addressed in only a relatively small number of studies. Several classes of drugs with antiemetic capabilities have been developed, including histamine H1 antagonists (e.g. meclizine, promethazine), muscarinic M1 antagonists (e.g. scopolamine), dopamine D2 antagonists (e.g. prochlorperazine), serotonin 5-HT3 antagonists (e.g. ondansetron, granisetron), neurokinin NK1 antagonists (e.g. aprepitant), and cannabinoids (e.g. dronabinol) [250, 401] (Table 3). A few case series of 5-HT3 antagonists, approved in the setting of cancer chemotherapy, report efficacy in nausea and vomiting, mostly in patients with gastroparesis [402–404].