Aims This systematic review aimed to review the literature on interventions for improving self-management and wellbeing in adolescents and young adults (11-25 years) with allergic conditions, including asthma.

Methods A search strategy was constructed using Cochrane Database of Systematic Reviews, MEDLINE, Embase and PsychINFO. Studies had to be controlled trials or randomised control trials. Databases were searched to February 10, 2019. Quality assessments and data extraction were undertaken independently by two reviewers.

Results A total of 30 papers reporting data from 27 studies were included. Studies were conducted in the USA (k=17); Netherlands (k=2); Iran (k=2); Australia (k=2); Jordan (k=1); Canada (k=1); UK (k=1); Germany (k=1). Interventions were of 4 main types: psychological (k=9); E-health (k=8); educational (k=4); peer led (k=5); with 1 intervention focused on breathing re-training. All interventions were for asthma. Psychological interventions used cognitive behavioural or motivational interviewing methods, emotional disclosure, stress management or problem solving to improve health outcomes. Significant improvements in the intervention group compared to the control group were found for self-efficacy, quality of life, self-efficacy, coping strategies and mood alongside improvements in asthma symptoms. E-Health interventions included the use of web-based computer tailored information, telecommunication compressed videos or mobile applications. Significant improvements were seen across most studies in inhaler technique, adherence, quality of life and in asking questions about asthma medication, triggers and environmental control. Educational interventions included group sessions focusing on asthma prevention and management, individual coaching sessions and nurse-led asthma clinics. They demonstrated significantly improved management of asthma symptoms, improved controller medication use and increased use of a written management plan, reduction in symptoms and improved quality of life. The peer led interventions included the Triple A (Adolescent Asthma Action) programme and a peer-led camp based on the Power Breathing Programme. Improvements were found for self-efficacy, school absenteeism and quality of life.

Conclusion Although significant improvements were seen across all intervention types, many studies were small feasibility or pilot studies and no studies for allergic conditions other than asthma met the inclusion criteria. Large longitudinal interventional studies across the range of allergic conditions are required to strengthen the evidence base.