

performed independently by two reviewers. The quality of included studies was assessed using the Newcastle-Ottawa quality assessment scale for cohort and cross-sectional studies, and the National Institutes of Health quality assessment tool for case series. The review was conducted and reported in accordance with the PRISMA guidelines for systematic reviews³ and was registered on PROSPERO with registration number CRD42021221631.

Results In total 81 studies were included in the systematic review, with 18.5% (15/81) studies deemed of good quality, 24.7% (20/81) studies of fair quality, and 56.8% (46/81) studies of poor quality. Almost all of the studies (99%, 80/81) were on tocilizumab. Only one study investigated siltuximab and none were found for sarilumab. The total number of patients included in the identified studies was 211 (210-tocilizumab, 1 siltuximab). For tocilizumab, the most frequently reported clinical indication was the management of complications associated with hematopoietic stem cell transplantation (24.3%, 51/210) followed by its use in the treatment of severe acute respiratory syndrome coronavirus 2 (SARS-COV-2) (17.5%, 14/80).

Overall, tocilizumab was prescribed for 28 unlicensed indications, and the dose varied from 4 to 12 mg/kg. Dosing frequency was reported in 98.7% (79/80) of tocilizumab studies, with 'every two weeks' prescribed most often (53.2%, 72/79). Adverse events were reported in 20.4% (43/211) of patients of which 32.6% (14/43) experienced adverse events, e.g. respiratory tract infections (n=2) and low platelet counts (n=2). The clinical outcome of the off-label use of tocilizumab was described to be successful in 55% (44/80) of studies, with reported success in the treatment of SARS-COV-2 and uveitis (13.6%, 6/44, each). The article on siltuximab reported no clinical outcomes.

Conclusion This is the first systematic review of the off-label use of IL-6 directed therapies in children. The limited data suggest that tocilizumab may be effective in a number of off-label indications, but the quality of available evidence is low and there remains the need for adequately powered and well-designed studies to support its use in clinical practice. The findings of this review should be used as a basis to inform future clinical trials in paediatrics.

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PRIMARY PHARMACEUTICAL CARE AND YOUNG PEOPLE: EXPLORING YOUNG PEOPLE PERSPECTIVES

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Introduction According to recent literature, the prevalence and incidence of long-term illnesses such as asthma and diabetes in young people has substantially risen over the past 13 years.¹ Recent figures indicate that, in England, 4.1% of all prescriptions were prescribed for young people. More than 45 million prescriptions were dispensed for young people in 2017 by pharmacists.²

Aim The aim of this study was to investigate young people's perspectives of the pharmaceutical services that are provided from primary care pharmacists relating to medication.

Method A cross-sectional survey using both the online and paper-based tools was conducted from March to November 2019. The population for this survey was young people from age 18 to 24 years registered as students at one of the universities in the UK. The survey consisted of twenty-four questions and they were a mix of closed-ended questions such as multiple choice and Likert scale and open-ended questions. This research gained ethical approval from the Ethics Committee of the same University (ERN_17-1672).

Results A total of 210 survey responses were returned. Most of the participants were female (62.4%). The most frequent age was 18 years (35.2%). Among participants, 15.7% were diagnosed with long-term illnesses and the majority of them (33.3%) were diagnosed with respiratory disease all of which was reported as asthma. Pharmacists were not utilised as a source of information for young people whereas the majority (60.6%) obtained information from their doctors. Most of the participants (97%) had not taken part in an MUR or NMS and 78.8% of them had never been told about any services or support groups by their pharmacist.

Discussion and Conclusion There is a lack of provision of pharmaceutical services and support by primary care pharmacists to young people with long-term illnesses. Previous evidence shows that this could be due to a lack of confidence when dealing with young people, unwillingness of pharmacists to take on more responsibilities, or a lack of training and support.³ The results would be of benefit to the policymakers to assist in the further growth of the pharmacy services. Further research will enhance understanding of the perceptions of young people about the pharmaceutical services that are offered by primary care pharmacists with respect to medications.

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ASSESSING COMPLIANCE WITH OXYGEN PRESCRIBING IN PAEDIATRICS

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Aim The National Patient Safety Agency Rapid Response Report¹ and British Thoracic Society (BTS) guidelines² state that oxygen should be prescribed. Following the introduction of electronic prescribing in a specialist children's hospital, there was a reduction in the number of patients whose oxygen was prescribed. A series of audits were undertaken to determine how often oxygen administration was accompanied by a valid prescription and whether a variety of interventions affected prescribing.

Method Eight paediatric wards in a specialist children's hospital were included in the audit. Critical care and the Emergency Department were excluded. A total of 4 audits were