Asthma And Its Treatment

Introduction

Asthma is a complex heterogeneous disease, characterised by chronic airway inflammation and recurrent, episodic respiratory exacerbations, namely wheezing, breathlessness, chest tightness and coughing, particularly at night (Kaufman, 2011). Danvers et al (2019) describe asthma as being the most prevalent chronic condition affecting children within the United Kingdom (UK), with 374 child deaths (14 years and under) being reported between 2001 and 2016 (Asthma UK, 2020a). Remarkably, Asthma UK (2020b) claims that two-thirds of the aforementioned fatalities could be prevented if better asthma control measures were implemented (Leyshon, 2011). Kai, who is at the heart of this assignment, is a fourteen-year-old male, diagnosed with asthma, attention-deficit/hyperactivity disorder (AD/HD) and a mild learning disability (MLD). Due to the severe risks associated with asthma, Kai's 'nocturnal cough' has been selected as the principal focus of the care plan. Over 12 weeks, the implementation of four evidence-based interventions aim to reduce the overall frequency (1-2 episodes a week, to 1-2 a month) and severity of Kia's nocturnal cough. To do that, the following interventions will be employed; the creation of a therapeutic relationship, medication administration technique, peak expiratory flow (PEF)/medication monitoring and smoking cessation referral. Throughout, recognition of Kai's behavioural and learning needs will be discussed, by considering how they may impact his adherence to the plan, and his life at both home and school.

Development of a therapeutic relationship

Crotty and Doody (2015), recommend that the formation of a therapeutic, nurse-patient relationship, should be considered a prerequisite when striving for high quality of care outcomes. This is congruent with Rogers (2004), who states that the adoption of a person-centred approach often maximises therapeutic value and adherence. Significantly, the distractible, disorganised and impulsive nature of Kai's AD/HD, means that forming relationships is often difficult (NICE, 2018a). Therefore, in an attempt to facilitate meaningful conversations with Kai, it is paramount to create a safe environment, through congruence and trust (Rogers, 2004). Engaging Kia in this manner, allows healthcare practitioners to assume the role of active listener and attentive partner, thus unambiguously comprehending Kai's individualist needs (Crotty and Doody, 2015). Prioritising Kai's preferences and concerns, ensures a truly personalised care plan. Challenges arise when deciding which communication strategy to employ. Greenhalgh and Heath (2010), advise caution, suggesting that designating a specific model for building client relationships is unpragmatic. There is no 'one-fits-all approach', which reiterates the importance of sound clinical judgement and its subsequent application in practice (NMC, 2019). Evidently, building a therapeutic relationship can be time-consuming. Moreover, Stothard (2017) revealed that asthma patients with MLD, need longer consultations than those without MLD. When patients were afforded more time, reductions in the use of emergency healthcare resources were reported. Crucially, through empathetic guidance, Kia and his family may be better equipped to recognise how his conditions interact and influence his interpersonal relationships. Specifically, his neurodevelopment, and mental health, now and in the future (Wenderlich et al, 2019).

Inhaler Devices Technique/Suitability

A classical feature of asthma is inflammation and bronchoconstriction of the respiratory airways, due to an overzealous immuno-response (Barber and Robertson, 2015); often triggered by allergen exposure or other mechanisms, resulting in airflow obstruction (NICE, 2018b). In accordance with NICE guidelines (2017), Kai has been prescribed short-acting-beta-2-agonist (SABA) medication, namely Salbutamol, in an attempt to reverse these effects. Despite being the mainstay of treatment, Finkelstein et al (2009), asserts that individual responses to SABA's are variable and difficult to predict. Significantly, Khan et al (2017), found that the proliferation of nocturnal symptoms could be associated with fluctuations in beta-2-adrenergic receptor sensitivity at night (Khan et al, 2017). Therefore, to address the issue of reducing Kai's nocturnal cough, every effort needs to be made to ensure optimised medication delivery, to the required site of action (Usmani, 2019). The Thoracic Society and Scottish Intercollegiate Guidelines Network (BTS/SIGN) (2011), recommend that inhaled asthma medication should not be prescribed without inhaler patients being competent in their use. Thus, it is paramount to ensure training is provided to Kai, with his technique being regularly assessed, to reaffirm its effective use. Additionally, Rollnick et al (2005), outlines the importance of encouraging patients to explore their views and goals regarding treatment. Crucially, determining what an acceptable device looks like to Kai, and whether it suits his needs is imperative. Moreover, adopting a patient-centred approach avoids practitioners making assumptions about Kai's capacity to use a particular device (Leyshon, 2011). Striking a balance between accommodating Kai's choices and the impact his AD/HD and MLD might have on device operation is key. Responding to Kai's individual preferences, in accordance with section 2 of the NMC code (2018), will likely improve his medication adherence and compliance over the long term (Fletcher et al, 2005; Kaplan and Price, 2020). Likewise, to promote positive behaviour change, Kai's care plan must be underpinned by realistic timeframes. Analysis by Lully et al (2009), discovered that on average, habit formation took 66 days (but ranged from 18-254 days). Therefore, the proposed 12-week plan falls within these recommended parameters.

Peak Expiratory Flow (PEF) and Medication Monitoring

Kai's nocturnal cough is indicative of poorly controlled asthma (Leyshon, 2011). Moreover, to limit the severity and frequency of future 'attacks', it is vital that we make every attempt to explore potential underlying causes. Conceivably, Kai may experience adherence challenges, or may not be aware of his triggers. According to NICE (2009), non-adherence falls into two distinct categories; intentional (intrinsic motives/beliefs) and unintentional (barriers outside of the patient's control). Therefore, to develop a wholly unique personal asthma action plan (PAAP) (Newell et al, 2015), objective data must be collated (Holmes, 2017). NICE (2009), propose the use of a medication and symptom diary, in conjunction with PEF charting. Despite its limitations, PEF is a simple, economical test that can be used to monitor lung function in asthma patients (Booker, 2007; Asthma UK, 2016a). However, due to asthmatic variability, it is not possible to gauge a 'normal' PEF score with a single assessment. Booker (2007) recommends that serial PEF readings be recorded morning and evening, for a period of no less than 2-3 weeks. Scores can then be used to assess diurnal and nocturnal variability (BTS/SIGN, 2019), providing objective data that underpins Kai's PAAP. Significantly, the detail at which Kai is required to monitor his condition may present problems. Potential solutions exist through smartphone asthma applications (Huckvale et al, 2015). Interestingly, in 2019, 96% of 16-24 years old in the UK owned a smartphone (O'Dea, 2019). Asthma UK (2016b) view this kind of connectedness

in data collection, as an opportunity that could greatly enhance clinical care outcomes, whilst supporting individuals in self-management. Notwithstanding Kai being the focus of the care plan, consideration must be given as to how Kai's conditions impact life at home and school. Where appropriate, families should be engaged in his treatment, ensuring a holistic support network for all involved (UKAP, 2019).

Smoking Cessation Referral

Smoking is a leading cause of preventable death in the UK and has huge economic costs to the National Health Service (NHS) (Bauld et al, 2009). Worryingly, Boulet et al (2006) report that smoking among asthma patients is relatively common, with a prevalence similar to that of the general population. Moreover, it is argued that smoking could be viewed as the most important modifiable risk factor associated with improving asthma control (Asthma UK, 2018), due primarily to its toxic and proinflammatory effects (Boulet et al, 2006). Similarly, smoking has been found to interfere with the pharmacotherapeutic responses to corticosteroids, thus increasing symptom severity (Spears et al, 2013). Most adolescents would like to stop smoking (Asthma UK, 2018), but with relapse rates being high (Harvey and Chadi, 2016), employing a strategy that engages Kai when considering his long-term outcomes is crucial. Smoking Cessation Services (SCS) are an intervention advocated by NICE (2018) as an effective framework for assisting adolescents, like Kai, to stop smoking. Furthermore, being mindful of Kai's personal needs and preferences may enhance the chances of him agreeing to SCS referral (NCSCT, 2010). Engaging Kai, by asking, "Why do you smoke?" and "Have you thought about giving up?", open up dialogue, allowing us to understand his reasons for smoking; for example, does he do it to 'fit in' with his peers at school? Equally, it is important to consider intrinsic and extrinsic barriers that may impede Kai's adherence to an SCS programme. For instance, Bauld et al (2009), report that socioeconomic factors are a strong driver in SCS outcomes. Notably, Kai's mother has failed to attend appointments in the past, citing 'transport issues' as a reason. Summarily, having captured Kai's information, it must then be delivered to SCS. To do this, NHS guidelines recommend the use of the SBAR communication tool (NHS, 2018), which supports the prompt transfer of accurate patient information to relevant departments.

Conclusion

Asthma is a highly complex, chronic disease that is widespread among the UK populous (Asthma, 2020a). With poor symptom control comes an increased risk of severe exacerbations and/or death (Leyshon, 2011). The primary approach employed in improving health outcomes for asthma suffers focuses on symptom control, through the implementation of varying pharmacological (NICE, 2017), and non-pharmacological interventions (NICE, 2018). Consequently, Kai's care plan has been constructed in a way that utilises various approaches, to reduce the frequency and severity of his nocturnal symptoms over a period of 12-weeks. Firstly, Kai's care plan considers his unique behavioural and learning needs, through the development of a 'nurse-patient' relationship. Despite Kai being the focus of the plan, it recognised that a collaborative effort is essential; hence the inclusion of Kai's family throughout the planning and treatment process. In accordance with NICE (2017), immediate assessment of Kai's inhaler technique is deemed critical, in ensuring optimised medication delivery for acute symptom relief. Capturing PEF measures and medication usage data over a 12-week period, allows for the objective assessment of both the efficacy of his prescription drugs and his

symptom control. Moreover, the serious detrimental effects smoking has on Kai’s health has not been overlooked. A SCS referral allows for behavioural specialists to fully explore Kai’s reasons for smoking and his readiness to stop.