



Supporting Patients through Education & Research

Lay Summary - Inhaler ease of use and inhalation flow rate in people with rheumatoid arthritis - Yasmin Kafaei Shirmanesh

One in six people with rheumatoid arthritis (RA) also have a lung disease such as asthma or COPD. Many of these people will need to use an inhaler for this. Hand problems caused by RA could make using an inhaler difficult. Some people with RA also have their lungs affected by the disease and this might prevent them breathing in fast enough to use inhalers. This had not been researched before so this project aimed to find which inhalers were best for people with RA and how to make the design of inhalers better.

Members of National Rheumatoid Arthritis Society groups were invited to take part. For each person with RA that took part, someone else without RA but of the same sex and similar age took part. This was done to see if there was a difference between people with and without RA. The people with RA completed two questionnaires to measure how severe their RA was and how bad the symptoms in their hands were. The people without RA just completed the hand questionnaire.

Four of the most common inhalers were used, these were the pressurised metered dose inhaler (pMDI), Easi-Breathe inhaler, HandiHaler and Turbohaler. The researcher watched members of each group and wrote down whether they were able to complete each step to set up the inhaler. To see whether people could breathe in fast enough to use inhalers, a device called an In-Check Dial was used.

The Turbohaler was found to be the easiest for people with RA to use, as 85% could use this inhaler. The Easi-Breathe could be used by 77% of the people with RA.

The pMDI and HandiHaler were harder for people with RA to use. Only 50% could use the pMDI. The main problem with the pMDI was being able to press the button. The Handihaler was the most difficult of the inhalers to use, as only 15% of people with RA could use. The main problems were being able to take the capsule of medicine out of the foil packaging to put in the inhaler, and pressing the button on the inhaler to pierce the capsule.

In the project, 34 people with RA took part and only one of these couldn't breathe in fast enough to use the inhalers, so this is not a major problem. The main problem is being able to set up the inhaler rather than being able to breathe in quickly enough.

This project found that the best inhalers to give to someone with RA are the Easi-Breathe inhaler and the Turbohaler. These inhalers were easiest for people with RA and had the smallest difference compared with people without RA. The pMDI and the HandiHaler should not be prescribed to people with RA if possible. In future, new inhalers should be designed that have few steps to set up the inhaler. People with RA should be trained to use inhalers and have a check that they are able to use them before they are prescribed.

How this project has influences my future career choice

This project has made me much more sure that I wish to enter a career in research. I have really enjoyed learning about the process of carrying out a research project, and I have loved being involved in a project with so much patient interaction. Before this project I had not had research experience involving working with patients and this was something I really wanted to explore, this project has confirmed to me that this is something I would really like in my future career. I am incredibly grateful to BIRD for such an amazing opportunity!