Awareness of Orthotics in the General Public

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Introduction and Aims

Orthotics are externally applied devices used to compensate for impairments of the structure and function of the neuro-muscular and skeletal systems[1]. On the right, you can see examples of different types of orthoses. Recognition of the purpose and benefits of assistive devices, such as orthoses, to manage mobility disability is required across the whole of society[2]. Orthotics can play a role across many divisions of healthcare and help to reduce stress on the NHS[3].

The aims of this investigation are to investigate the general level of awareness of orthotics in the general public, and across various demographic groups. This study also looks at investigating peoples' opinions of orthotics, regarding what they are used for and how they are perceived.

Figure 1.Image of a knee-ankle-foot orthosis

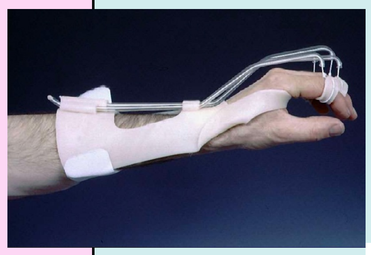

Figure 2. Image of a wrist-hand orthosis

Sustainability in P & O

An increased awareness of orthotics is important for the longer-term sustainability of orthotic services and the profession. There are opportunities to work more closely with well-known brands and create custom orthotic footwear with branding/designs which may help to increase positive perceptions about orthotic use.

Methodology

This study was granted ethical approval by University of Strathclyde.
The data was collected for this study by means of an online cross-sectional survey, shared across a range of social media platforms and groups.
Basic demographic information was collected. Then each participant was asked 'Have you ever heard of orthotics?'. Depending on their answer, each participant got asked a set of follow up questions.

Data Analysis

Frequencies on SPSS were used to gain an understanding on the results.
Differences in level of awareness of orthotics between different demographic groups were tested for significance using Chi-squared tests and phi/Cramers V tests.
Some infographics were also taken directly from Microsoft Forms

Results

The survey achieved a total of 673 responses. From these, it was found that over half the respondents (54%) had never heard of orthotics prior to the survey.

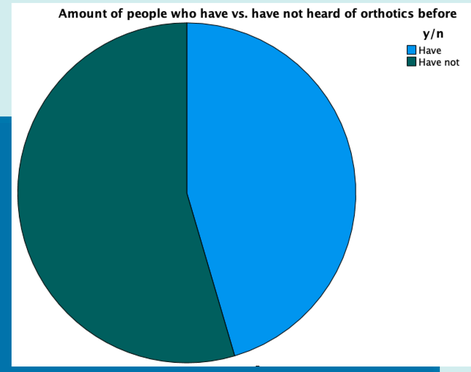

Figure 3. Pie chart showing proportion of people who had vs. had not heard of orthotics

Age(p=0.002), employment status(p=0.006)and the industry within which people work(p=<0.001) significantly affected awareness of orthotics. Participants in the highest age category (>55), retired participants and those working in the healthcare sector were significantly more likely to have awareness of orthotics. Education level was found to have no significant effects on awareness. General impressions of orthotics were positive regarding function.

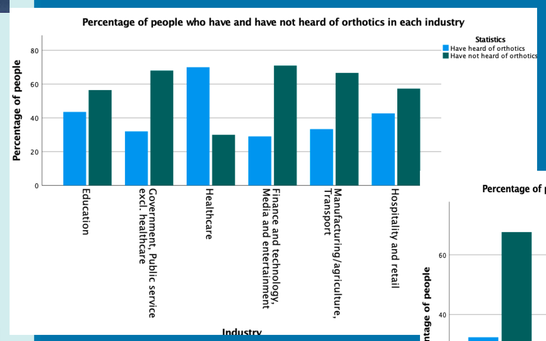

Figure 4. Graph showing the percentage of people who had vs. hadn't heard of orthotics by the industry they work in

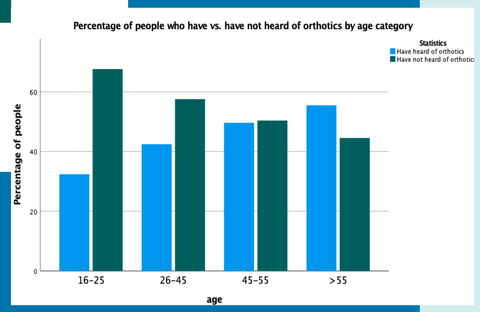

Figure 5. Graph showing the amount of people who had vs. hadn't heard of orthotics by age categories

Figure 6. Word compilation showing the most common answers when people who had heard of orthotics before were asked to describe them. 24% of respondents' answers contain 'help'

Discussion

More people in the older age category and more retired people had heard of orthotics. This could be because they or their family and peers are more likely to experience health conditions which might benefit from orthotic intervention, given their advancing age. Working in the healthcare industry, more people would be expected to have awareness of orthotics as they may need to recognise what orthotics can be used for and provide (referrals to) the orthosis.
The power of social media has been highlighted in this survey given the large number of people that the survey reached. This suggests that it may be a useful tool in educating the public on orthotics, as it can reach so many people.

Strengths

The survey was advertised on social medial meaning it reached a wide range of people.

Over 600 responses were collected meaning it has a large sample group to represent the wider population

Made initial measures to educate the public by providing information and web links

Limitations

Due to the survey being online, results could be skewed as people were able to use Google.
Contacts of the researcher were able to participate therefore, there may have been a greater number of the sample who had awareness of orthotics.

People who knew about orthotics are more likely to participate and so the rate of awareness seen could be higher than reality

Conclusion and Areas for further research

An increase in the general public's level of awareness of orthotics is required as over 50% of people had never heard of orthotics before.
As this study takes the first steps into investigating this topic, there are many areas for further research and progression within the field.

References: International Organisation for Standardisation. (2020). ISO 8549-1:2020(en) Prosthetics and orthotics — Vocabulary — Part 1: General terms for external limb prostheses and external orthoses. https://www.iso.org/obp/ui/#iso:std:iso:8549:-1:ed-2:v1:en (Accessed on 22/02/2024)
[2] McMonagle, C. (2019). *Understanding adherence to ankle-foot orthoses : an application of the theory of planned behaviour* University of Strathclyde]. https://stax.strath.ac.uk/concern/theses/wh246s196
NHS. (2015). Improving the quality of orthotics services in England. https://www.england.nhs.uk/commissioning/wp-content/uploads/sites/12/2015/11/orthcs-final-rep.pdf (Accessed on 15/08/2024)