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a cross-sectional study"**

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Influence of hand injury on person's ability to draw dots and lines: a cross-sectional study

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Hand & Musculoskeletal Conditions

ABSTRACT Background- Hand injury is very common in adults, which may affect the frequently performed writing activity in day-to-day life. Writing is a part of IADL, which helps in communicating messages and thoughts, taking notes, doing signatures, and filling application forms, so in the adult population, writing has a significant role in education, career building. Writing needs various manipulative movements to form letters, move across words, sentences, and lines. Drawing dots and lines are the primary step for handwriting.

Aim- To find out the impact of hand injury in drawing the dots and lines and comparing with the age-matched scores of the Handwriting Assessment Battery.

Method- An observational and cross-sectional method was used. The consent was taken electronically and the pen control and manipulation subtests which include the horizontal line drawing task and the dots task were administered in the online video call.

Results- The study recruited 27 participants with hand injury and was age-matched with 27 normal individuals. Fisher's exact test was used to find out the impact of hand injury in drawing the dots and lines and comparing with the age-matched scores of the Handwriting Assessment Battery. The result shows participants who had hand injuries had difficulty in horizontal line drawing as many of them could not be able to perform that particular task. Hand injury didn't impact the dots drawing as many of them were able to perform the task.

Discussion- It was found that hand injury essentially impacted the line drawing and not so much the dots drawing.

Keywords- writing process, hand fracture, hand function, pencil grasp, quality of writing