

ADVERSE EVENTS

Pathology



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Cervical cytopathology represents an effective technique to detect precancerous conditions in the uterine cervix. However, previous research has questioned the reliability of cervical screening with the failure to find or identify cancerous features on a slide identified as a possible cause of recorded 'false negatives', where cancerous cells are present but not identified.

Following cognitive psychology theory, the main hypothesis of this study was that false negative diagnosis in this work domain could be attributed to the inherent nature of slide screening, where the vast majority of cases are negative so that previous negative case encounters may prime, i.e., increase sensitivity, towards false negative diagnosis. Indeed, previous research in radiology and dermatology has revealed that the context in which a diagnosis is rendered can and does influence subsequent diagnostic accuracy.

British Academy Small Research Grant 2011

Diagnostic processes under fixation-induced conditions in cervical cytopathology: An experimental pilot study

The pilot study was developed to investigate the impact of previous experiences with a series of negative slides on a positive test slide diagnosis. Eight experienced screeners from two Scottish NHS hospitals participated in three sessions, with one week between sessions. Each session consisted of a series of nineteen negative slides with one positive test slide, embedded either at the beginning, middle or end of those series, thus comprising our three experimental conditions. The screeners' task was to diagnose a series of slides whilst thinking aloud, thus allowing cognitive processes data to be collected, such as examination, exploration, interpretation, and control and operational processes, alongside accuracy and speed of diagnosis. Unbeknownst to the screeners, all three conditions consisted of the same positive and negative slides with their order randomised.

The findings revealed that a false negative diagnosis was more likely to be rendered when the positive slide was presented early in the testing session, with less abnormal features being identified. Furthermore, diagnostic consistency for the negative slides varied in the three conditions, not only between screeners but also within each screener's performance.

Publications

Publications are currently in preparation.