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Towards early intervention for youth mental health in primary care: A mixed methods investigation

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Introduction: The youth suicide rate in Ireland is now the second highest in the European Union, for 0-19 year olds. Early intervention in youth mental health is increasingly viewed as being more effective than traditional approaches to care. General Practitioners (GPs), as the healthcare professional most often consulted by young people, have a central role in early detection of youth mental health problems. However, there is a dearth of evidence regarding the experiences and attitudes of young people and health care workers towards screening and treatment for such issues.

Aims: This study aimed to examine the role of primary care in providing early intervention and treatment for youth mental health problems.

Methods: It was a mixed method study that involved qualitative interviews with health care workers (n=37) and young people (n=20) from primary care, secondary care and community agencies in two of Ireland's most socio-economically disadvantaged areas, Limerick City and Dublin South Inner City and a national cross-sectional survey of GPs (n=175).

Results: While addressing youth mental health problems was a priority, a number of barriers to the identification and management of such issues were identified: Access to services, flaws in traditional mental health services for young people under eighteen years, fragmentation between services and limited resources.

Conclusion: The research outlined potential implications for clinical practice, research and education such as promoting awareness of mental health and the role of the GP in helping these issues, education of practitioners and improving access to psychological treatments for young people.

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Bio-engineering of tactile perception: Aging effect

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We investigated the effects of aging on tactile perception. Ageing reduces the elasticity and extensibility of the skin throughout the epidermis, dermis and subcutaneous tissues, which greatly affects their mechanical properties as well as the layer thickness. These changes lead to a decrease in the overall Young modulus of the skin and the skin ability to detect different textures. The effects of ageing on touch perception are studied by means of experimental work and finite element simulations. Ageing behaviors are studied through the investigation of the skin geometrical and mechanical properties. As an experimental approach, we have developed two different systems: The air flow system to identify the rheological properties of the skin and the tribohaptic system which allows the quantification of the vibrations transmitted to the finger in a tactile perception test. To better understand the mechanics of touch and the effect of ageing, new 2D finite element models of a viscoelastic multilayer finger are developed under ABAQUS environment. These models simulate the friction (finger/surface) of two groups of healthy young and old men in order to understand the effect of ageing on tactile perception and calculate the vibrations transmitted through the human finger tissue during a touch test under the same experimental conditions. The decline in tactile sensory capacity in older subjects has been highlighted. Results proved that the sense of touch decreases with age.

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