

Inflammatory mechanisms of mental illness: brain inflammatory response to interferon stimulation

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Aims. We hypothesise that peripheral IFN stimulation results in a brain inflammatory response via pathways of neuroimmune communication which in turn results in sickness-behaviour and depressive phenotype. We aim to determine if peripheral IFN stimulation results in brain inflammatory response including upregulation of inflammatory cytokines and chemokines.

Background. There is increasing interest in the role of dysregulated immune function and inflammation in the pathogenesis of psychiatric disorders including mood disorders and dementias. Immune mechanisms offer a new approach to investigating mechanism in addition to offering hope for new avenues of treatment.

Interferon (IFN) therapy in humans is known to be associated with a significant risk of developing depression, both during therapy and increasing risk of relapse in the years following exposure, yet the mechanism remains unclear. IFN stimulation in animal models may offer insights into this phenomenon, in addition to furthering our understanding the role of immune mechanisms in the development of psychiatric phenotypes.

Method. Mice (n. 42) were exposed to either IFN- α , IFN- γ or vehicle control using either osmotic pump or intraperitoneal injection over the course of 7 days. Mice were sacrificed, brains were dissected and RNA extracted. Inflammatory gene transcription within the brain was determined using real time quantitative polymerase chain reaction (RTqPCR). Absolute quantification was achieved using standard curves and reference gene. Statistical significance was determined using Mann-Whitney or ANOVA/Kruskal-Wallis depending on normality of data and number of groups.

Result. IFN γ stimulation is associated with a significant brain upregulation of a number of inflammatory cytokines and chemokines including IL1 β , TNF α , IL10, IFN γ , CCL2, CCL5, CCL19, CXCL10 and CCR5. However, unexpectedly we did not find IFN α stimulation to associate with brain inflammatory transcriptional changes.

Conclusion. This work demonstrates a brain inflammatory response to peripheral IFN γ stimulation. The inflammatory profile, including upregulated chemokines, suggests that recruitment of leukocytes across the blood brain barrier may be part of the immune response. Further experiments using existing tissues will explore if there are structural/cellular changes within the brain parenchyma. Further experiments within the group will seek to demonstrate if IFN treatment associates with sickness behaviour in order to determine if this is a clinically meaningful model. Surprisingly, we did not see similar changes in the IFN α treated group, which requires further investigation.

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Does my patient have sex ? - Mental health professionals' understanding of sexual health issues among their patients

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Aims. To assess the level of understanding and difficulties encountered when obtaining sexual health details of their patients among mental health clinicians.

Background. People with mental health problems, especially those treated with psychiatric medication experience greater rates of sexual difficulties than those in the general population. Mental health practitioners need to examine personal beliefs and attitudes about sexuality among people with mental health problems. Providing information about sexuality and sexual practice benefits and enhances the quality of life of people with mental health problems. Therefore taking a sexual history should be an integral part of psychiatric assessment.

Method. An online survey consisted of 17 questions to cover 3 areas of objectives mentioned above was created using Survey Monkey. A link to the survey was emailed to all the clinicians who perform psychiatric assessments. Response collection and data analysis was performed by the trust IT team.

Result. Total of 54 clinicians participated in the survey representing nurses, junior, middle grade doctors and consultants. Almost all stated that mental health patients have capacity to make appropriate decisions about their sexual behaviour patterns. 43% thought people with mental health problems don't have similar patterns of sexual behaviour compared to people without mental health problems. 11% stated that people with mental health problems do not experience greater rates of sexual difficulties than those in the general population. Nearly a third did not believe that telling patients about potential sexual side effects may lead to poor compliance. Nearly 70% stated taking a sexual history should be an integral part of psychiatric assessment. 44% reported lack of knowledge and skills when talking about sexual health and 33% avoided asking about sexual health due to lack of knowledge. Half of the clinicians avoided asking about sexual health due to the fear of embarrassing or causing distress to patients while 16% avoided asking about sexual health due to self-embarrassment. 65% talk about sexual health issues only if patients brought them up.

During last 3 clinical encounters majority never asked about sexual difficulties, high risk behaviour and drug side-effects related to sexual difficulties. A significant proportion of clinicians never asked about contraception from their female clients.

Conclusion. Survey revealed majority of mental health clinicians lack understanding and skills about sexual health issues highlighting the importance of raising awareness among clinicians about sexual health issues.

Stealth-vaping: a new era of illicit substance misuse? a systematic review and meta-analysis of the prevalence of electronic nicotine delivery systems for the consumption of illicit substances

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Aims. To estimate the prevalence of using Electronic Nicotine Delivery Systems (ENDS) for the consumption of illicit substances (illegal under UK Law). We hypothesised that this is an increasingly common mode of delivery.

Background. Using ENDS to consume nicotine is increasing in popularity worldwide with a prevalence in the UK of 6% and in