

Perceived Stress and Food Consumption Among Pakistani Medical Students – a Survey Study

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Aims. The aims of this study included investigating the relationship between perceived stress levels and food consumption patterns amongst Pakistani medical students. Additionally, the study meant to determine whether there is a significant difference in food choice between high-stress and low-stress groups of students. Lastly, the study aimed to identify the specific food types most commonly consumed by medical students under high stress conditions.

The investigators of this study hypothesised that there is a significant difference in food choices between high-stress and low-stress groups of medical students.

Among the common health problems reported by medical students, stress stands out as one. Factors related to educational and psychological domains result in the development of stress. Changing dietary patterns is a commonly employed strategy used to deal with stress.

Methods. This study utilised an online survey administered among medical students across Pakistan. The data collection period was 4 weeks from 5th July to 5th August 2023. The survey was distributed conveniently using social media platforms. Sampling was done via the snow-ball method. Data analysis was done via SPSS.

Results. Our results from the population of 138 females (68.6%) and 63 males (31.3%) concluded that there were no significant differences in the perceived stress score between genders (p -value = 0.377) and between hostelites and non-hostelites (p -value = 0.816) using the Mann–Whitney test. We found statistically significant differences in the perceived stress score among the different frequencies for the consumption of snacks (p = 0.02) and fast foods (p = 0.008), but the stress score remained non-significant for fruits and vegetables (p -value = 0.089), ready-to-eat foods (p -value = 0.134), and sweets (p -value = 0.051) with the Kruskal–Wallis test.

Conclusion. While previous studies have shown a difference in perceived stress across genders and living arrangements, ours found none. In addition, we found snacks and fast foods to be the go-to for students in times of stress, but the consumption of healthier foods was not associated with a lower level of stress.

Abstracts were reviewed by the RCPsych Academic Faculty rather than by the standard *BJPsych Open* peer review process and should not be quoted as peer-reviewed by *BJPsych Open* in any subsequent publication.

Development and Preliminary Testing of App-Based Culturally-Adapted Psychoeducation for Bipolar Disorder in Pakistan

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Aims. Bipolar disorder (BD) leads to marked disability, morbidity, and premature death. Although pharmacological agents are an essential part of BD treatment, psychosocial interventions have played an important role in enhancing treatment adherence, functioning and quality of life in patients with BD. Building on a successful pilot randomised controlled trial (RCT) of a Culturally adapted PsychoEducation (CaPE) intervention for BD, CaPE is currently being evaluated in a large multicenter RCT for its clinical and cost-effectiveness across Pakistan. However, innovations are urgently needed due to limited human resources and disproportionately high clinical needs to bring effective interventions to scale. This study aims to develop and test a mHealth iteration of CaPE, digital CaPE (dCaPE), to be delivered via a mobile app.

Methods. The study will utilise a two-phased approach to i) develop a user-centred dCaPE mobile application and ii) assess the feasibility and preliminary efficacy of dCaPE for people with BD in a randomised controlled trial in Pakistan. For application development, we have conducted discussion groups with stakeholders i.e., mental health professionals (psychiatrists, psychologists, nurses) (n = 8) and patients and carers (n = 10) to gauge their valuable insights for app design, visual elements, cultural sensitivity, motivational and mood-monitoring features, and app functionality to improve user experience.

Results. The findings from discussion groups informed the importance of visual elements, specifically font size and style. Participants recommended the use of soft and soothing colours like white, grey, and soft shades of pink to prevent overstimulation. Additionally, participants highlighted the need for culturally and linguistically inclusive features, including emojis and audio messages for effective engagement and to address the challenge of low literacy. The mHealth approach was deemed highly valuable, especially given the prevalence of mental health challenges and associated stigma. Endorsed by participants, the dCaPE application will offer customized psychoeducation messages along with daily 5-item (mood, energy, sleep, medication, and irritability) screening, a weekly comprehensive test for manic and depressive episodes based on DSM–5 criteria; weekly reminders to regulate sleep and eating habits, and visual representations of weekly mood monitoring reports with the incentive of badges or rewards for goal achievers.

Conclusion. This research has the potential to enhance clinical outcomes, social and occupational functioning, and the overall quality of life for BD patients while addressing substantial mental health treatment gaps with impact and implications extending to various low-resource settings.

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Review of Published ECTAS Data Set From 2012/2013 to 2021

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Aims. Electroconvulsive Therapy Accreditation Service (ECTAS) publishes minimal data set collected from ECT services subscribing to ECTAS accreditation. The aim of this study is to review minimal data set published by ECTAS towards understanding

trends and statistically significant changes between 2013 and 2021.

Methods. ECTAS minimal data set has been published for years 2012/13, 2014/15, 2016/17 and 2021. Number of courses, age, gender, diagnoses, legal status, number of treatments, and score on Clinical Global Impression Scale (CGI) for acute treatments has been analysed for trends and statistical differences.

Results. ECTAS data set was not published for the years 2018, 2019 and 2020. In terms of number of courses of treatment per year, 2014/15 was highest with 2148 courses and lowest was in 2016/2017 with 1821 courses. Average number of treatments was 1995 and there was no statistical difference between the years. There was no statistical difference with mean age (61), gender (female 66%), and diagnosis (depression 87.5%). In terms of diagnosis though, there is better documentation of diagnosis in 2021, rather than broad categories such as catatonia used previously, and this has led to schizophrenia as diagnosis in 4% and mixed affective disorder in 5%.

There has been a gradual but not statistically significant trend to increase in treatments per course from 9.3 in 2012/13 to 10.1 in 2021. There is significant increase in number of patients detained at the start of treatment from 42% in 2012/13 to 57% in 2021. Percentage of people in moderate to amongst severely ill categories on CGI at the start has remained the same through the years (mean 96%). CGI at the end of treatment minimal improved to much improved has similarly remained through the year (mean 91%).

The 2021 data set includes subjective memory score with categories showing increases after ECT were 2 (“occasional increased lapses of memory”) and the yet milder category of 1.

Conclusion. Between the published data sets, there is no statistical difference apart from number of patients commencing ECT under the Mental Health Act. This may reflect increasingly better practice in assessing mental capacity, with a greater tendency to appropriate application of Mental Health Act legal framework ensuring legal safeguards for the patient such as right to appeal and statutory access to second opinion.

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From At-Risk Mental State to Psychosis: Demographic Characteristics and Clinical Correlates of Individuals Who Transitioned to Psychosis

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Aims. The at-risk mental state (ARMS) describes individuals at high risk of developing schizophrenia or psychosis. This study aimed at exploring the demographic characteristics of individuals who transitioned to psychosis from a large multicenter factorial design trial.

Methods. This was a secondary analysis of large multicenter randomised controlled trial of minocycline and/or omega-3 fatty acids added to treatment as usual for at-risk mental states. Participants (n = 326) were randomised to minocycline, omega-3, combined minocycline and omega-3 or to double placebo for 6

months. The primary outcome was transition to psychosis at 12 months.

Results. Forty-five (13.8%) participants transitioned to psychosis. The mean age of participants was 23.31 (5.31 SD) and 15.6% no formal education, 8.9% primary, 48.9% matriculation, 8.9% intermediate and 15.6% graduation and above. Majority 66% of participants were male and 71.1% single, 66.7% living in a joint family, 44.4% were employed, 24% students, 17.8% household/housewife and 3% unemployed. Interestingly 36.8% participants had a family history of psychosis, followed by 21.0% any unknown mental illnesses, 15.8% bipolar disorder, 15.8% depression, 5.3% anxiety and 5.3% intellectual disability. The mean total score for the Prodromal Questionnaire was 8.93, with a standard deviation of 1.67. The mean score on the Comprehensive Assessment for At Risk Mental State (CAARMS) unusual thoughts was 3.98 (SD = 0.84), Non-Bizarre Ideas 3.64 (SD = 0.77), Perceptual Abnormalities 3.76 (SD = 0.71) and disorganized speech 2.49 (SD = 1.12). Participants had mean Social and Occupational Functioning (SOFAS) score of 66.67 which suggests moderate difficulty in social, occupational, or school functioning (e.g., few friends, conflicts with peers or co-workers).

Conclusion. Transition to psychosis appears to have different demographic and clinical correlates which may have the causal relationship to transition. The cross-comparative studies are warranted to understand differences and similarities between the groups.

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Isolating and Characterizing the Transcriptome From Human Alzheimer's Disease (AD) Brains

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Aims. Local protein synthesis at the synapse is a key determinant of learning and memory and is predicted to be severely disrupted in Alzheimer's disease (AD). Omics approaches have played a key role in deciphering molecular mechanisms underlying AD pathology. However, isolating the transcriptome may be biased due to inherent variations in transcript levels, or by transcription-on-demand models employed by several genes, whereas mass-spec based proteomics approaches fail to capture low abundance peptides. The transcriptome bypasses these inherent limitations of other omics methods by capturing actively translating mRNA species trapped inside ribosomes and subjecting them to unbiased RNA-seq analysis capturing even very low abundance transcripts.

Methods. Isolating the neuronal ribosomes from human post-mortem brains without interference from non-neuronal cells remains a challenge. We used frozen brain tissue from Alzheimer's patients and healthy controls obtained from the Cambridge Brain Biobank. Synaptonemes were prepared using sucrose gradients in non-denaturing buffers with RNase inhibitors to preserve ribosomal composition and trapped mRNA. We isolated functional ribosomes on affinity columns following recombinant RNase digestion. Finally, actively translating ribosome-trapped mRNAs were