Brief report

Neuropsychology and its relevance to clinical psychology in the non-specialist adult mental health setting

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Abstract

Objectives: This study aims to investigate the prevalence of neuropsychological disorders in a non-specialist clinical psychology service in adult mental health service and also to explore the existence of neuropsychological symptoms in those subjects having psychiatric disorders.

Method: The yearly data of new referrals from the psychology register and record files of the patients was collected for this purpose and subsequently analysed. The two content scales of MMPI-2, ie. HEA2 and HEA3 were administered and scored.

Results: The results indicate that neuropsychological disorders were the second major referral source during this period and a significant difference ($p = 0.001$) was found between the scores of HEA-2 and HEA-3, which suggest that the subjects reported more neuropsychological symptoms than symptoms of general health concern during their initial routine psychological assessment.

Conclusion: There is consistency in our findings regarding the questions raised in this study which indicates a prevalence of neuropsychological disorders in adult mental health settings. It also indicates a high rate of neurological symptoms in psychiatric patients with psychiatric disorders.

Key words: Neuropsychology; Relevance; Adult mental health.

Introduction

Neuropsychology as an independent speciality has experienced unprecedented development in recent times. It is involved in extensive practical research and is developing qualitative and quantitative neuropsychological approaches for clinical application on an interdisciplinary as well as disciplinary basis. These approaches have been utilised by most practitioners working with patients in different health service settings to identify the strengths and weaknesses of the individual. Tests relate to their functioning at home, in business and work place settings, in the academic environment and social settings, etc. It is a client-based assessment, which is relevant to general clinical psychological practice.

Acquiring knowledge of this discipline can augment the skill and technical know how of clinical psychologists and could in turn make a distinctive contribution to the overall care of clients attending adult mental health services. Primarily neuropsychological assessment is used to detect such disorders as cognitive and behavioural deficits, emotional problems like disinhibition, and lack of insight as a sequel to frontal lobe changes or strokes.[1] It has clinical usefulness in the form of intervention, enhancing one's ability to perform well in daily affairs.[2] Furthermore, the application of neuropsychological assessment could develop inroads into our understanding of psychiatric and other functional disorders specifically in forensic cases.[3,4]

There are some other crucial areas where neuropsychology becomes significant, such as early detection of dementia and related neurodegenerative diseases, the distinction between Alzheimer's, vascular dementia and frontal lobe dementia.[5] Also the differentiation between these and normal ageing memory disorder, executive dysfunction in alcoholics[6] and distinction between neurological conditions and functional disorders in adult mental health settings is of obvious importance.[7]

In addition its role is pivotal in identifying neuropsychological deficits as sequelae of head injury, brain tumour and epilepsy. Other medical conditions such as multiple sclerosis, Huntington disease, HIV/AIDS, vascular disease and cognitive deficits in substance use disorder increasingly are areas in which neuropsychology may play a central role.[8]

To recap, the literature reviewed demonstrates significant applications of neuropsychological investigation in a clinical psychology setting in adult mental health services. This study attempts to profile neuropsychological problems and their occurrence in clinical settings. Our aim was to explore the prevalence of neuropsychological problems occurring in an adult mental health setting during a one-year period. Also to discover the emergence of neuropsychological symptoms as a result of administering psychometrics for routine psychological assessment. It was hypothesised that the clients who were seen for initial assessment using content scales of MMPI-2 would have more neurological symptoms than symptoms related to general health concerns.

Method

Subjects

Subjects were all new referrals received by the psychology department of the adult mental health Services County Roscommon from Jan 1, 2007 to Dec 31, 2007. All were considered in the context of profiling the prevalence of neuropsychological disorders. Among them, those clients who were administered MMPI-2 were selected to analyse the data of two content scales.

Instruments

- Record files of the clients, which included referral letters, and other relevant documents of the patients.

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Table 1: Mean, standard deviation and t value between the scores of content scales HEA-2 and HEA-3

	Scales	Mean	SD	t	P
(n = 53)	HEA2	4.49	2.91	6.420	0.001
	HEA3	2.57	1.74		
Depression (n = 17)	HEA2	5.06	3.07	3.321	0.001
	HEA3	3.12	1.73		
Eating Disorder (n = 6)	HEA2	4.00	2.89	1.648	.001
	HEA3	2.28	1.98		
Obsessive Compulsive Disorder	HEA2	1.5	1.29	0.000	1.00
(n = 5)	HEA3	1.5	1.00		
Anxiety (n = 10)	HEA2	4.1	3.14	2.053	0.001
	HEA3	2.8	1.87		
Alcohol Problem (n = 15)	HEA2	5.13	2.61	7.407	0.001
	HEA3	2.20	1.69		

- The two Content MMPI-2 Scales the HEA-2, (neurological symptoms), and HEA-3 (symptoms of general health concern) were used in this study. These scales possess external validity that is equal or greater than that of the original MMPI clinical scales.[9] Moreover, it is also described that the content of objective personality scales have earned wider acceptance over the past few decades[10,11] and are considered to be as valid in describing and predicting personality variables as scales developed by other methods.[12]

Procedure

The purpose of this study was discussed and agreed with the principal psychology manager including the relevance of the project to the adult mental health clinical psychology service. As an ethical issue, no identifying data relating to clients was included in the final description. As mentioned above, this study includes the yearly data (From January 2007 to December 2007) of those clients who were referred for routine psychological assessment. During this period, appointments were offered to all these clients. The initial psychological assessment includes a clinical interview and a battery of psychological tests including personality tests, memory tests, and intelligence tests. A comprehensive written report for each client was provided and a tentative diagnosis was communicated to referral sources. The data of all referrals (n = 111) was collected from the psychology register and record files of the relevant period. These were subsequently analysed and the frequency of referrals outlined in percentages. From the total group a further sub group was created consisting of clients (n = 53) who were administered MMPI-2 for their routine psychological assessment. The data of the two content scales, ie. HEA-2 and HEA-3 were then examined for the current study. T test was applied to find the differences between the two MMPI scales. The results are depicted in *Figure 1* and *Table 1* in the next section.

Results

The data obtained from files indicated that neuropsychological disorders formed a cluster which included epilepsy, post head injury, memory disorder, dementia, Huntington disease and multiple sclerosis and these were found the second major source of referrals, ie. 21% indicating a significant occurrence in the general adult mental health service. Further breakdown in *Figure 1* shows the total attendance of 80, with 18%-19% not attending.

The analysis also discovered that 25% of clients had been assigned diagnoses of depression, 15% alcohol dependence, and 13.5% had anxiety, 7.2% had eating disorders and 5.4% had obsessive-compulsive disorder. Depression was found to be the most prevalent diagnosis in referrals. In addition the third, fourth and fifth commonest diagnoses from referrals were alcohol dependence 15%, anxiety disorders 13.5 %, and eating disorders 7.20% respectively. All had a significant difference (P.001) between scores on HEA-2 and HEA-3 *(see Table 1)*. This suggests that those clients who had depression, alcohol dependence, anxiety and eating disorder presented with more neurological symptoms than the symptoms of general health concerns.

Only one disorder obsessive-compulsive disorder, which is attained the smallest percentage at 5.4%, had (p = 1.00) indicating no significant difference and in turn suggests that these clients appeared to have less neurological symptoms compared to symptoms of general health concern. However, the majority (n = 53) had significant differences between scores on HEA-2 and HEA-3 (p = 0.001).

Discussion

We endeavoured to explore the prevalence of neuropsychological disorders in generic clinical psychology practice in adult mental health settings, where patients with common psychiatric disorders were referred for routine psychological assessment. Further examination looked at the frequency of neurological symptoms versus symptoms of general health concern as defined by the MMPI-2.

Our findings indicated a significant occurrence of neuropsychological disorders amongst those referred in a one-year period and also discovered the highest incidence of neurological symptoms in the MMPI-2 profiles in those clients having psychiatric disorder. It is also significant that a range of neurological disorders presented during a one-year

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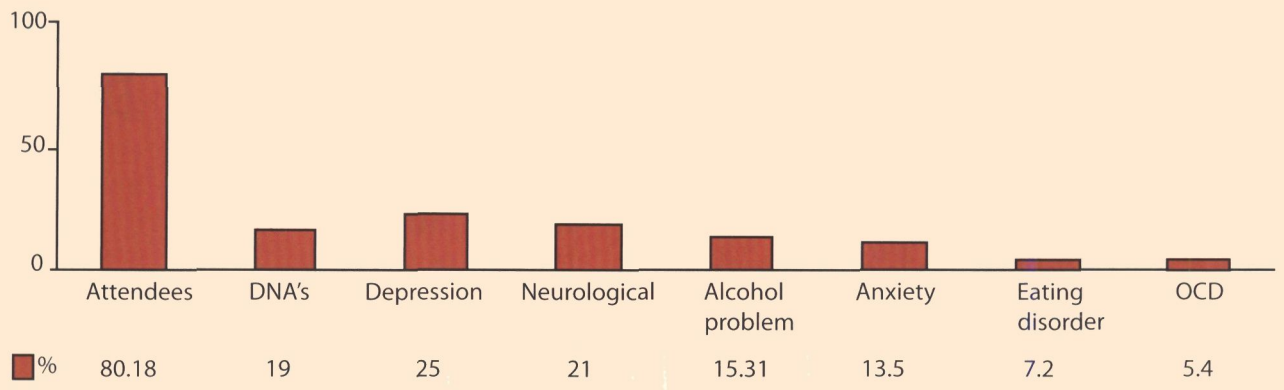
Figure 1: Neuropsychological disorders



period that included epilepsy, post head injury or operation, concussions, memory disorder, dementia, Huntington disease and multiple sclerosis. In addition to this the clients that also had a diagnosis of psychiatric disorders and were referred for routine psychological assessment, reported more neurological symptoms than general health concerns, creating a context to conceptualise the common psychiatric disorders with reference to neuropsychological conditions.

There is evidence from literature supporting the aforementioned results. Previous studies have revealed that psychomotor slowing, impairment in memory and executive functions are found in depressed clients[13] and central executive deficits among alcoholics.[14] However, this association between neurological symptoms and psychiatric disorders has not been explained adequately[15,16] and needs more extensive research.

The significance of neuropsychological assessment in the initial investigation is therefore paramount. It would seem essential for all clinical psychologists working in the adult mental health settings to have grounding in neuropsychology to attempt to answer these questions. This would indicate whether clients should be referred for further advanced neurological investigations or whether it is linked to their anxiety and depression. Also differentiation may be possible between psychogenic memory disorders and factitious disorders. Furthermore, a comprehensive formulation including neuropsychological examinations would indicate the appropriate intervention to deliver an effective professional service. Moreover, the recent advances in clinical knowledge and development of Neuropsychological testing allow clinicians to access a valid and reliable assessment relevant to diagnosis and care plans.[16]

Conclusion

The findings of this study demonstrate the prevalence of neuropsychological disorders in an adult mental health setting and also show more neurological symptoms than symptoms of general health concerns in a range of psychiatric disorders over a one-year period. It suggests that neuropsychological assessment and intervention could be an integral part of clinical psychological practice and may emerge to play a more significant role in adult mental health. It further implies that clinical psychologists would benefit from the acquisition of special assessment and intervention skills in neuropsychological assessment. The field of neuropsychology provides an opportunity to apply scientific psychology, grounded in research, in an intellectually stimulating area, to help with real human problems and to alleviate distress in areas that otherwise may not be addressed.

Declaration of interest: None.

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