ORIGINAL ARTICLE

The Modified Overt Aggression Scale: How Valid in this Environment?

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Abstract

Background: *The Modified Overt Aggression Scale (MOAS) has been validated for use in the study of aggression in the developed world; unlike in the undeveloped world. The aim of this study therefore is to ascertain the discriminant validity of the MOAS for use in this part of the world using psychiatric in-patients at the Jos University Teaching Hospital.*

Methodology: *Forty aggressive psychiatric patients and 40 non-aggressive healthy subjects were randomly selected for this study. The psychiatric patients were enlisted after fulfilling the ICD-10 (World Health Organization, 1993) criteria for a specific clinical diagnosis. The 40 non-aggressive subjects were mainly medical students and hospital staff. The MOAS was subsequently used to assess aggression in the entire cohort.*

Results: *The males had higher mean global weighted score than the females in both the aggressive and non-aggressive categories. The mean global weighted scores of the aggressive and non-aggressive categories were 13.70± 7.25 and 0.65 ± 1.01 respectively. The difference in means is statistically significant; hence the MOAS has discriminant validity.*

Conclusion: *Therefore, the modified overt aggression scale is a valid instrument in this environment for the study of aggression.*

Key words: *Overt aggression, psychiatric, weighted, validity*

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INTRODUCTION

Aggression and impulsivity are often contributing factors to many criminal and offensive acts[1]. In relation to health care, the presence of aggression/impulsivity is a serious and substantial complication in the management of patients with mental or psychological disorders. Impulsivity and aggression often compromise treatment efficacy and contribute to poor outcome, non-compliance and relapse.[2]

Instruments for accurately recording, objectively measuring and the study of aggression in this population and in out-patients are urgently needed in both clinical practice and research. Documentation of aggressive behaviour has traditionally relied on institutional records that are charts, incident reports, and nursing reports[3]. Unfortunately, individual incident reports using the above methods, document five times fewer aggressive episodes than are indicated in daily ward reports[4]. Furthermore, a simple subdivision into aggressive and non-aggressive patients is methodologically unsatisfactory and does not correspond to clinical reality[5]. The use of the Modified Overt Aggression Scale (MOAS) became necessary to enable calculation of statistical association. The MOAS is an improvement on the Overt Aggression Scale (OAS).

Yudofsky and Silver developed the OAS in 1986. It is a one-page protocol that documents and measures specific aspects of aggressive behaviour based on standard criteria to be observed by the researcher. The OAS ratings have been found to have high inter-rater reliability.[6]

The validity of the OAS has been evaluated in some studies. Two such studies carried out in New York, at the Creedmoor psychiatric center in Queens and Middletown psychiatric center compared the capacity for documenting aggressive episodes using both the OAS and official hospital records. The OAS recorded 98% and 87% of the documented aggressive incidents respectively while the hospital records recorded 27% and 53% respectively.[7]

The authors concluded that the OAS is a valid instrument in evaluating individual patterns of aggression such as verbal and physical aggression, weekly variation in aggressive behaviour, patterns of aggression among patient groups, types of intervention employed to manage aggressive behaviour and effect of drugs and psychosocial measures.

However, some practical problems make the OAS difficult to use. For example, it is expected that the researcher using the OAS should also record the time each incident began and ended as well as his response to the behaviour. Hence the MOAS, an adaptation of the

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OAS that depends on weekly scores rather than critical incident reports was developed.[8]

The MOAS is also a one-page protocol that documents and measures specific aspects of aggressive behaviour based on observable criteria. It has 4 subscales of aggression (verbal aggression, aggression against property, auto-aggression and physical aggression against other people). For each subscale, one can score 0,1,2,3 or 4. This corresponds to no aggression, mild aggression, moderate aggression, severe aggression and profound aggression for any particular subscale. The MOAS has been tested at various centers in the developed world and found to be a valid indicator of type and severity of aggression with good inter-rater reliability.[8]

Nevertheless, its validity has not been ascertained in this environment. The purpose of this study therefore is to evaluate the discriminant validity of the Modified Overt Aggression Scale among psychiatric in-patients at the Jos University Teaching Hospital.

METHODOLOGY

This study involving 80 subjects (40 psychiatric in-patients and 40 non-aggressive subjects), took place within a two-month period from December 2005 to February 2006. The instruments employed in this study included the Modified Overt Aggression Scale (MOAS) and the International Statistical Classification of Diseases manual, 10th edition (ICD-10). The MOAS has 4 subscales of aggression (verbal, aggression against property, auto and physical aggression) with weight x1, x2, x3 or x4 attached respectively. For each subscale, one can score 0,1, 2, 3, or 4. This corresponds to no aggression, mild, moderate, severe and profound aggression respectively.

The 80 subjects were randomly selected. The 40 non-aggressive subjects constituted mainly medical students on psychiatric posting as well as some hospital staff. The MOAS was administered weekly to all the subjects, and only the severest act of aggression on any subscale of aggression within the study period was taken as the final score on that subscale for a particular individual. The controls were matched by age, sex and educational attainment with the psychiatric patients.

Before the commencement of this study, approval of the ethical committee of JUTH was sought and informed consent obtained from the subjects to be involved in the research. The patients were admitted into the wards subsequent to a careful clinical assessment and diagnosis based on the ICD-10 criteria. The MOAS was then subsequently administered.

The data was analyzed using the statistical package for social science (SPSS) at 5% level of significance and 95% confidence interval.

RESULTS

There were 20 males and 20 females in both the aggressive and non-aggressive categories. Their ages were between 20 and 32 years and the minimum education they had was a secondary school education.

Table I shows the global weighted scores of both genders in the aggressive category. The males have higher mean global weighted score than the females (14.0 ± 5.3 vs 13.4 ± 4.7, df=48, $p>0.05$) but the difference is not statistically significant. However, the mean global weighted score of the aggressive category is 13.70 ± 7.25.

Table II shows the global weighted scores of the males and females in the non-aggressive category. The males have higher mean global weighted scores than the females (0.75 ± 1.02 vs 0.55 ± 1.6, df=27, $p>0.05$) but the difference is not statistically significant. The mean global weighted score of the non-aggressive category is 0.65 ± 1.01.

When the mean global weighted scores of the aggressive and non-aggressive categories are compared, the difference in the two means is statistically significant ($t=7.5$, df=3, $p<0.05$).

Table I global weighted scores of Males vs Females in the aggressive category

N=40

MALES (20) TOTAL		FEMALES (20) TOTAL	
SCORE	N	SCORE	N
2	1	2	0
3	1	3	0
4	0	4	1
5	1	5	2
6	0	6	1
7	1	7	1
8	2	8	3
9	1	9	0
10	1	10	1
12	3	12	2
14	2	14	0
15	0	15	2
16	0	16	2
17	1	17	0
18	1	18	2
21	0	21	1
22	1	22	0
23	1	23	0
25	0	25	1
28	1	28	0
30	1	30	1
35	1	35	0
TOTAL	20		20

Table II global weighted scores of Males vs Females in the non-aggressive category N=40

MALES (20) TOTAL		FEMALES (20) TOTAL	
SCORE	**N**	**SCORE**	**N**
0	12	0	11
1	5	1	7
2	1	2	2
3	1	3	0
4	0	4	0
5	1	5	0
TOTAL	**20**		**20**

DISCUSSION

The difference in the mean global weighted scores of the aggressive compared with the non-aggressive category was found to be statistically significant. This confirms that the modified overt aggression scale has discriminant validity. Therefore it can be used for the study of aggression in our environment. The validity of the modified overt aggression scale has been reported in studies done in the developed world. [7, 9] The result from this study also lends credence to the thought of Harris and Knight Bohnhoff that aggression and impulsivity are associated with factors surrounding psychiatric diagnoses. [10, 11]

Aggression is a clinical, social as well as medico-legal problem. Some studies in Nigeria have shown that over the years, there has been an increase in assaultive behaviour among criminal offenders. [12, 13] Furthermore, most of these offenders met the criteria for one psychiatric diagnosis or the other [14, 15]

In conclusion, it should be stressed that proper assessment of aggressive behaviour is essential for understanding its causes. In-patient aggression threatens the safety and well being of both staff members and patients. Apart from its physical and psychological consequences, in-patient aggression also has considerable financial implications. Therefore to protect personnel and patients, psychiatric hospitals need a clear policy to prevent aggression and minimize its consequences.

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