

Use of Addiction Severity Index in a Nigerian Drug Abuse Treatment Unit: A Clinical Audit

Peter Olutunde Onifade^{1*}, Olubisi Olanokanmi Osisanwo¹, Oluronke Ayokanmi Ganzallo¹, Akinwanda Owuladewa Akinhanmi¹, Sunday M Amosu¹, Edward Babatunde Somoye², Temitope Ogundare¹ and Taiwo Abosedede Adamson³

¹Drug Addiction Treatment Education and Research Unit, Neuropsychiatric Hospital, Aro, Abeokuta, Nigeria

²Department of Clinical Service, Neuropsychiatric Hospital, Aro, Abeokuta, Nigeria

³Ishwot Consulting Hospital, Abeokuta, Nigeria; Formerly, Drug Addiction Treatment Education and Research Unit, Neuropsychiatric Hospital, Aro, Abeokuta, Nigeria

Abstract

Background: The Addiction Severity Index (ASI) is a useful research and clinical tool. It has been used extensively but not in Nigeria. This study aimed to audit the implementation of ASI as a clinical tool in a Nigerian drug abuse treatment unit.

Methods: This is a complete-cycle clinical audit with mixed method design: Cross-sectional survey and Focused Group Discussion (FGD) were used.

Results: The use of ASI for the patients during the first phase of the audit cycle was less than 50%. This increased significantly to 78% at the second phase ($\chi^2=13.2$, $d=1$, $p<0.001$). Similarly, significantly higher proportion of the patients had their ASI narrative reports/master problem lists ($\chi^2=11$, $d=1$, $p=0.001$) and treatment plans ($\chi^2=3.88$, $d=1$, $p=0.038$) presented at the weekly ward rounds of the therapeutic team. The finding is the same for ASI based treatment plan review and update. Problems with the use of ASI could be classified into factors related to the instrument, training, structure of staff duties, and schedule for the unit's activities.

Conclusion: The problems challenging the use of Addiction Severity Index in clinical practice in this setting is similar to what obtain elsewhere. But the efforts at implementing the use of ASI for assessment, treatment planning and outcome evaluation in this African setting is yielding positive results at an early stage. Therefore the practice of using ASI in developing countries like Nigeria is feasible. To this end attention should be focused on staff continual training and reorganization of staff schedule of duty.

Keywords: Addiction Severity Index (ASI); Psychometric properties; Focused Group Discussion (FGD)

Introduction

The Addiction Severity Index (ASI) is a semi-structured clinical and research interview designed for use by technicians or counsellors [1]. It was developed in 1980 [2] and has been translated to many languages and validated in many countries [3-6].

It is a standard in virtually all clinical trials [2] and other outcome evaluation of individuals with drug abuse [7]. It is used to compare individuals with drug abuse across different populations [8,9]; to assess the differential effects of specific drugs on specific areas of life of individuals with drug abuse [10]; to assess domains associated with certain drug use related risks [11]; to determine the relationship between the addiction severity of proband and parental variables [12].

It is part of the standard clinical assessment of patients with drug abuse in many treatment units in America, Europe and Asia [2]. However, the authors are not aware of published studies on the clinical or research use of ASI in Africa. And though there are several published reports on its psychometric properties and results of its use, there is paucity of studies on the process and problems of implementing the instrument as part of the clinical protocol in drug abuse treatment units [13].

In 2005, the Drug Addiction Treatment Education and Research (DATER) Unit of the Neuropsychiatric Hospital, Aro, Abeokuta, introduced the Addiction Severity Index (5th version) for research and clinical purposes. In September 2009, as part of the United Nations Office on Drugs and Crimes' global project, GLOJ71, the unit introduced ASI (TREATNET version 2.9) as a clinical tool for patients' assessment, treatment planning and outcome evaluation. It became

the unit's policy for counsellors to administer ASI on all patients, and, based on the findings, draw master problem list, design the treatment plan, present the clients to the therapeutic team and review the plan periodically. The therapeutic team consists of the psychiatrists, the psychiatric nurses, the clinical psychologist, the occupational therapist, the social welfare officer and the nutritionist. The team meets weekly at the ward round and monthly for "housekeeping".

The study aimed to audit the implementation of ASI as a clinical tool in the Nigerian drug abuse treatment unit.

Materials and Methods

This is a complete-cycle clinical audit with mixed method design: Cross-sectional survey and Focused Group Discussion (FGD) were used.

Practice setting

Background: The practice setting was the Drug Addiction Treatment, Education and Research unit (DATER House) of the

***Corresponding author:** Peter Olutunde Onifade, Drug Addiction Treatment Education and Research Unit, Neuropsychiatric Hospital, Aro, Abeokuta, Onifade PO, Nigeria, Tel: +2348035061082; E-mail: oniffpo@yahoo.com

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Neuropsychiatric Hospital, Aro, Abeokuta, Nigeria. The unit has been described elsewhere [14-16]. It was established in 1983 within the premises of its 526-bed parent hospital, the Neuropsychiatric Hospital, Aro, Abeokuta, which is one of the 8 federal neuropsychiatric hospitals in Nigeria. The hospital is an accredited institution for the postgraduate psychiatry fellowship training programs of the National Postgraduate Medical College of Nigeria and the West African College of Physicians. It is also accredited for the post basic mental health nursing by the Nigerian Nursing and Midwifery council of Nigeria. At every point in time, there is a junior and a senior resident doctor rotating through the drug addiction treatment unit. Post basic mental health nursing students, too, rotate through the unit.

DATER program flow map: The DATER program has 7 modalities of treatment: Detoxification, Co-morbid treatment, Individualized Residential-Outpatient Treatment (IROT). Therapeutic Community (Phase 2), Intensive Outpatient, Phase 1 aftercare outpatient and Phase 2 aftercare outpatient. Figure 1 depicts the flow map of patients through the hospital and the different treatment modalities in the DATER program.

Program activities: Intensive Outpatient Clinic (IOC) runs thrice a week for 16 weeks, each session lasting 90 minutes. Client is assessed for suitability before enrolment (for example comorbid mental illness and being at the pre-contemplation phase of the “circle of change” are exclusion criteria). The clinic uses group and individual psycho-educational and psychotherapy sessions. Three of the sessions for an

individual involve family psychotherapy. Random urine drug test is done.

The monthly outpatient clinics operate group psychotherapy and individual counseling in addition to routine urine drug test and psychiatric consultation, irrespective of the history of comorbid psychiatric illness.

The IROT was born out of necessity for patients who need intensive treatment but are unsuitable for either intensive outpatient or phase two treatment. The patient is resident in Phase 1 but goes to the department of psychology to scheduled sessions for 8 weeks.

Daily activities in phase 1 are: Crew Assignment/Morning chores, Morning Devotion, Morning meeting, Ward Routine (such as serving of medications), general cleaning/Laundry, Evening devotion, Light out/Bed time.

Scheduled activities in phase 1 are: Role play; Group psycho-educational sessions with six different foci (Balanced Life style, Healthy Relationship, Skills Training, Drug Education, Feelings Management and Nutrition); Group and individual psychotherapy; Individual Counselling; Weekend nursing review; Occupational therapy (group and individual); Recreational therapy; Indoor/outdoor games; Library and personal reading; Weekly ward round; and Church/Mosque attendance.

Phase 2 is more psychologically engaging and intense. Daily activities in this phase are: Crew assignment/Morning chores,

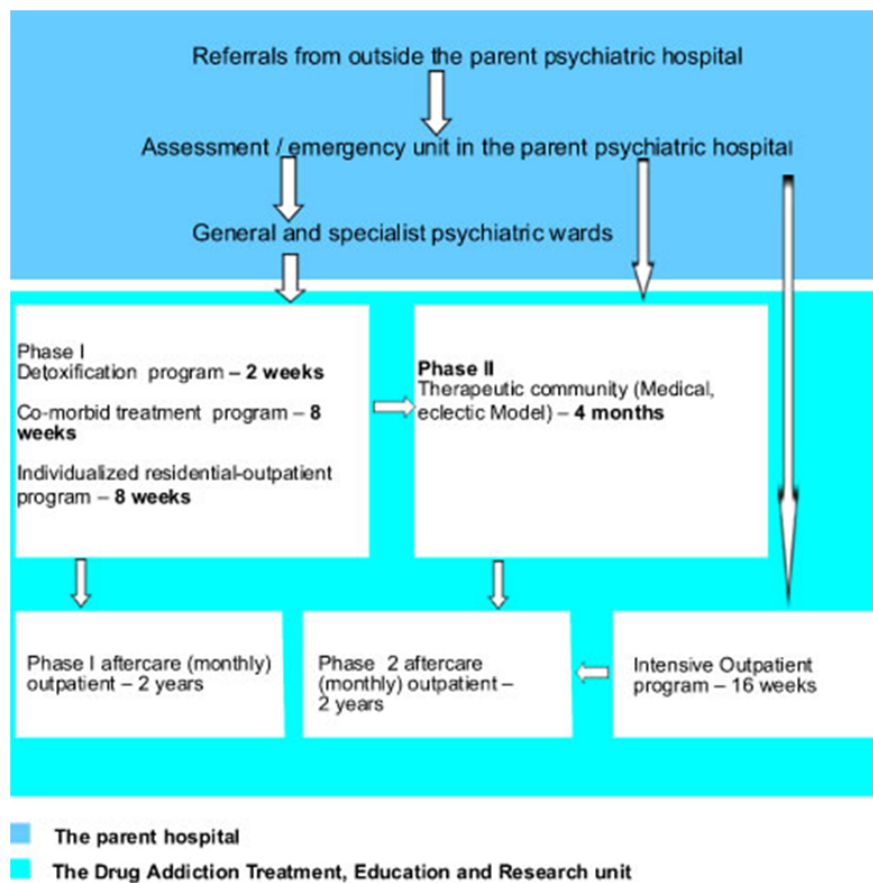


Figure 1: DATER program flow map.

Morning devotion, Morning meeting, Ward routine (such as serving of medications), General Cleaning/Laundry, Evening devotion and Light out/Bed time.

Scheduled activities in phase 2 are: Relapse Prevention (Group psycho-educational sessions), 12-Step group meeting, Encounter group session, 24 Hours, Group and individual psychotherapy, Individual counseling, Seminar/lectures (prepared and delivered by the patients), Occupational Therapy (group and individual), Recreational therapy, Spiritual therapy, Relaxation exercise, Patients' story and feedback, Motivational sessions, Family group therapy, Video session, Privileges group, Personal time, Indoor/outdoor games, Church/Mosque attendance, Library and Personal reading, Weekend nursing Review and Weekly ward round.

History of the use of ASI in DATER program: The ASI was introduced to DATER unit in 2005. Then only the consultant psychiatrist and the resident doctors in the unit were using it. But the continuity of use was not sustained because of the heavy workload on the few people.

With the advent of UNODC TREATNET which includes ASI the training package as the evaluation instrument for people with drug abuse, the unit, being a TREATNET resource centre conducted a series of training sessions for its staff on the use of ASI. In addition, every presentation of ASI-based narrative report and treatment plan at the ward round was taken as a training tool on the proper use of the instrument.

The unit's staff and ASI related responsibilities

All the workers in the unit are employees of the parent hospital. During the study period, there were three consultant psychiatrists, each of whom ran his own separate adult psychiatry unit in the main hospital. There were two resident doctor, three clinical psychologists, two social workers, one occupational therapist, one nutritionist, and 26 psychiatric nurses. Except for the nurses, all the clinical staff had duties in various general/specialist psychiatric units in the hospital. Every clinical staff was a "counsellor" to one or two patients assigned to him. "Counsellor" is the term used in the unit for the staff who oversees the treatment of assigned patient(s). He administers ASI, writes the ASI narrative report, derives ASI based master list, and designs the treatment plan. He presents these documents at the ward round. He facilitates, coordinates, monitors and evaluates treatment interventions according to the treatment plan and presents updates to the therapeutic team.

Study population

We surveyed the medical records of patients admitted into the DATER phase I between September 1, 2009 and August 31, 2010 and between October 1, 2010 and September 31, 2012, for the first and second phases of the clinical audit cycle respectively. The therapeutic team members of the unit participated in the focused group discussion and the questionnaire survey.

Sampling

We assessed case notes of all the patients admitted into the DATER phase I within the two one-year periods. For the FGD, we used a convenient sample of therapeutic team members who were on duty on the day of the discussion. For the questionnaire survey, we included all therapeutic team members who attended one of the monthly therapeutic team meetings of the unit.

The instrument

For data extraction from the patients' case notes, the authors designed ASI implementation checklist (ASIIC) with 9 items, which were grouped into 2 categories. The first category of items was about the counsellor, while the second category was about the use of ASI. The Focused Group Discussion (FGD) was taped. For the post FGD survey, we designed a questionnaire based on the results of the FGD.

Data collection

The FGD took place on the September 23, 2011, between 1 and 2 pm when there was overlap between morning and afternoon duties of the nurses. The participants were informed of the FGD two days earlier and were each given a copy of the audit results to preview an hour before the FGD, which commenced with introduction of the objectives of the FGD and self-introduction of the participants. The objectives were stated as being to review the audit results, to identify personal opinions on the results and recommendations for facilitating the administration of ASI. The post FGD questionnaire was administered at the next (September 23, 2011) monthly therapeutic team meeting of the unit.

For the second phase of the audit, only medical records data extraction was done for patients admitted between October 1, 2011 (a month after the results of the first phase of the clinical audit were presented to the staff) and September 31, 2012.

Ethical consideration

The Research Ethical Review Committee of the hospital granted permission for the study. Participation by the members of staff was voluntary. All information obtained was treated with confidentiality.

Data analysis

A qualitative exploration of the transcript of the FGD was done. The responses in the transcript were categorized and organized into a table. The data from the case notes and the questionnaire were analysed with SPSS version 16. Descriptive analysis and chi squared were done. Confidence interval was set at 95% and p-value of less than 0.05 was taken as significant.

Results

Case note data

From the admission register of the unit, 56 and 78 patients were admitted into the unit during the periods September 1, 2009 to August 31, 2010 and October 1, 2011 to September 31, 2012 respectively. Case notes of 50 (89.3%) and 69 (88.5%) patients admitted during the two time periods respectively were available for review.

Table 1 presents the professional background of the staff who served as counsellors to the patients admitted during the two periods. They were mostly psychiatric nurses. The table also shows the proportion of patients who had ASI administration. Twenty-three (46%) had ASI administration during the first phase of the clinical audit. Significantly higher proportion of the patients (78%) had ASI administration during the second phase ($\chi^2=13.2$, $d=1$, $p<0.001$). Similarly, significantly higher proportion of the patients had their ASI narrative reports/master problem lists ($\chi^2=11$, $d=1$, $p=0.001$) and treatment plans ($\chi^2=3.88$, $d=1$, $p=0.038$) presented at the weekly ward rounds of the therapeutic team. The finding is the same for ASI based treatment plan review and update.

Variables	First phase n = 50		Second phase n = 69		Chi squared		
	N	%			x ²	df	p
Profession of counselors*							
Psychiatric Nursing	40	80.0	60	87.0			
Clinical psychology	7	14.0	4	5.8			
Psychiatry	2	4.0	4	5.8			
Social works	1	2.0	1	1.4			
ASI administered							
No	27	54.0	15	21.7	13.2	1	<0.001
Yes	23	46.0	54	78.3			
ASI based narrative report and Master problem list developed							
No	39	78.0	33	47.8	11.04	1	0.001
Yes	11	22.0	36	52.2			
ASI based Treatment plan developed							
No	42	84.0	47	68.1	3.88	1	0.038
Yes	8	16.0	22	31.9			
Presented at the ward round							
No	44	88.0	35	50.7	18.5	1	<0.001
Yes	6	12.0	34	49.3			
• ASI narrative report only	1	2.0	3	4.3			
• ASI narrative report and master problem list only	0	0.0	11	15.9			
• ASI narrative report, master problem list and treatment plan	5	10.0	20	29.0			
Treatment plan reviewed and updated							
No	48	96.0	56	81.2	5.7	1	0.013
Yes	2	4.0	13	18.8			

*Counselors in the DATER program are members of staff who have patients assigned to them.

Table 1: Use of Addiction Severity Index administration.

Problems identified	Reasons	Recommendations
Less than 100% of the patients had Addiction Severity Index administration	<ol style="list-style-type: none"> No or insufficient knowledge on how to administer ASI Staff shortage and workload Low level mentoring and monitoring 	<ol style="list-style-type: none"> Need to formally train staff who missed the earlier training sessions; Need for retraining staff to gain competence Put 2 or 3 staff on monthly roster for the administration of ASI and excuse them from their routine duties during the period. Set up 1- or 2-man monitoring unit to ensure that ASI is administered (and properly so) on every patient admitted into the unit.
Less than 100% of the patients had ASI Narrative report	<ol style="list-style-type: none"> ASI narrative report writing is time consuming. 	<ol style="list-style-type: none"> Computer program that generates the narrative report would save time.
Less than 100% of the patients had ASI-based master problem list	<ol style="list-style-type: none"> Not difficult but can only be done after ASI has been administered 	<ol style="list-style-type: none"> Computer program that generates the master problem list would save time
Less than 100% of the patients had ASI-based treatment plan	<ol style="list-style-type: none"> No or inadequate knowledge on how to design ASI based treatment plan. Involves multiple disciplines (domains) and therefore difficult for only one counselor to design without input from staff in other disciplines, but to track down those staff is difficult because of work schedule. 	<ol style="list-style-type: none"> Special training on ASI-based treatment planning. Each counselor needs to have global knowledge of all interventions that can be delivered by each profession in the unit to meet the needs of the patients.
Less than 100% of the patients had their ASI presented to the therapeutic team for joint review.	<ol style="list-style-type: none"> The ASI presentation input from other staff at the round is time consuming; whereas, only two hours/per week were allotted to both the presentation and ward round. Therefore a counselor might wait for weeks to present the ASI of his patient. Often when it was a counselor's turn to present the ASI report, there would be co-occurrence of other official duties or he might be off duty 	<ol style="list-style-type: none"> Allocated different periods for ward round and ASI presentation; allocated more hours to ASI presentation. When inevitable, a counselor should hand over the ASI presentation of his counselee to another counselor.
Less than 100% of the patients had their ASI based treatment plan reviewed	<ol style="list-style-type: none"> The treatment plan review might not have been documented, though done. 	<ol style="list-style-type: none"> ASI based Treatment plan review should be explicitly documented in the counselor's progress note and titled as such.
The mean duration between clients' admission and ASI was greater than 14 days	<ol style="list-style-type: none"> Mental state of patients often does not allow ASI administration within 2 weeks of admission Some patients have to be persuaded for more than two weeks before they consent to ASI administration. 	<ol style="list-style-type: none"> The two-week policy should start counting as from the time clients' mental state settled (as ascertained with Brief Psychiatric rating scale.) Set up 1 or 2 man monitoring unit to ensure that ASI is administered (and properly so) on every patient admitted into the unit

Table 2: Summary of the subjects discussed during the Focused Group Discussion.

The focused group discussion

Eleven members of staff participated in FGD. Seven of them (63.6%) were females while 8 (72.7%) were nurses. The staff had worked in the unit for a mean duration of 12.6364 (sd=8.94) months (Minimum=3.0, Maximum=28.0). Table 2 presents the summary of the FGD. Problems with the use of ASI could be classified into factors related to the instrument, training, structure of staff duties, and schedule for the unit's activities:

1. Some workers has no or inadequate training on the use of ASI.
2. Administering ASI and drawing the ASI-based treatment plan is time consuming.
3. The workload of staff was already much, without ASI.
4. The shift nature of the nurses' duty often made them unavailable to present the ASI report and plan at the ward round.
5. The frequency and duration of the ward round limit the rate of ASI presentations.

Key recommendations from the FGD were:

1. ASI training and retraining for all clinical staff.
2. Mentoring and monitoring for ASI use.
3. Implementation of the computerized version of ASI.
4. Adjusting the duty roster of nurses to accommodate ASI presentation at ward rounds.
5. Adjusting the ward round to facilitate timely ASI presentation.

All these recommendation were implemented except the use of the computerized ASI, due to multiple logistic constraints.

Post-FGD survey

Thirty-one clinical staff who attended the monthly therapeutic team meeting filled the questionnaire. Other members of staff where either on leave or off-duty. Table 3 shows that only 17 (54.8%) had formal training on ASI. Ten had never administered ASI and 8 (80%) of then attributed it to having no formal training on ASI. Sixteen (51.6%) had never presented ASI based narrative report at the ward round; 5 (31.2%) of them were either busy with other duties or ready to present but had no chance due to short time allotted for ASI report presentation at the ward round (Table 4).

N=31		
Variable	n	%
Sex		
Female	17	54.8
Male	14	45.2
Profession		
Nursing	22	71.0
Psychology	4	12.9
Social works	1	3.2
Psychiatry	3	9.7
Occupational therapy	1	3.2
Phase		
Phase I	14	45.2
Phase II	17	54.8

Table 3: Sociodemographic variables of the Post-FGD participants.

n=31		
Variable	n	%
Did you receive ASI training in 2009 and or 2010?		
No	14	45.2
Yes	17	54.8
Have you ever administered ASI on any patients in DATER house		
No	10	32.3
Yes	21	67.7
If ASI not administered, why?		
I have not been formally trained to use ASI	8	25.8
I have been formally trained but I am not sure I am competent enough to administer ASI	1	3.2
I have been formally trained but other official duties I have in the hospital take most of my time and attention	1	3.2
Not applicable	21	67.7
Have you ever written ASI narrative report on any patients in DATER house?		
No	12	38.7
Yes	19	61.3
If ASI narrative report was not written, why?		
I have not been formally trained to use ASI	10	32.3
I have been formally trained but I am not sure I am competent enough to write ASI narrative report	1	3.2
I have been formally trained but other official duties I have in the hospital take most of my time and attention	1	3.2
Not applicable	19	61.3
Have you ever designed ASI based master problem list for any patient in DATER house		
No	12	38.7
Yes	19	61.3
If not master problem list was not drawn, why?		
I have not been formally trained to use ASI	11	35.5
I have been formally trained but I am not sure I am competent enough to write the ASI-based master problem list	1	3.2
I have been formally trained but other official duties I have in the hospital take most of my time and attention	1	3.2
Not applicable	18	58.1
Have you designed ASI based TREATMENT PLAN for any patient in DATER house?		
No	14	45.2
Yes	17	54.8
If not treatment plan was not drawn, why not?		
I have not been formally trained to use ASI	11	35.5
I have been formally trained but I am not sure I am competent enough to draw the ASI-based treatment plan	1	3.2
I have been formally trained but other official duties I have in the hospital take most of my time and attention	1	3.2
I have been formally trained but drawing the ASI-based treatment plan is too time consuming	1	3.2
Not applicable	17	54.8
Have you ever presented ASI narrative report to the therapeutic team during ward round?		
No	16	51.6
Yes	15	48.4
If not presented to team, why		
I have not been formally trained to use ASI	10	32.3
I have been formally trained but I am not sure I am competent enough to present ASI narrative report to the therapeutic team during ward round	1	3.2
I have been formally trained but other official duties I have in the hospital take most of my time and attention	2	6.5
I am ready to present but I have not had my chance due to long queue and short time allocated to ASI presentation during ward round	3	9.7
Not applicable	15	48.4

Table 4: ASI training and use experiences.

Discussion

This is the first clinical audit of the use of Addiction Severity Index in Africa. The difficulty in incorporating the use of ASI in this practice setting is similar to the experiences elsewhere where workers in drug abuse treatment unit often initially rejected ASI because of the additional paperwork and the perceived conflict with the needed attention to clinical duties [2]. Other challenges to its full implementation are attributable to the nature of instrument, lack of continual training and staff schedule of duties. However, the efforts at implementing the policy of the use of ASI for assessment, treatment planning and outcome evaluation in this African setting is yielding results at an early stage. Unlike in many settings where use of ASI is driven by funders or government policy [13], this study shows that ASI can be successfully implemented through policy that originate within the treatment unit. A limitation of this study is that it covered only one treatment centre in Nigeria, which may not be representative of other units in the country.

In conclusion, the practice of using ASI in developing countries like Nigeria is feasible. To facilitate the practice, adequate and continual training should be provided for all the clinical staff to spread the burden over many people. The staff schedule of duty should be organized to accommodate the administration of the instrument, the narrative report writing and ASI-based treatment planning. In addition, the workers should be provided with the opportunity to present their ASI findings and treatment plan to the rest of the clinical team as part of their clinical schedule.

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