

Trends in clinical practice and its effect on relapse among patients with severe mental disorders in Ethiopia: a retrospective chart review

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Abstract

Background Studies have suggested that developing good trends in clinical practices in adherence to the recommended processes and guidelines for basic care have been associated with good health outcomes. However, no previous studies have explored trends in psychiatric practices and their impact on relapse among patients with severe mental disorders.

Methods: We conducted a retrospective chart review of 401 patients with severe psychiatric disorders selected by systematic random sampling technique. Trends in clinical practice were assessed by a tool adapted from published evidence based on advice from well-known experts in psychiatric practice. A univariable and multivariable logistic regression model was used to investigate the association between psychiatric practices and relapse.

Results This study provided evidence of a significant deficit in adherence to the recommended practices of basic care. The vast majority of professionals were not following the appropriate psychiatry history-taking format at first contact (73.6%), not documented the reasons for drug discontinuation (88.5%), did not follow the correct guideline of shifting across psychotropic medications (86.8%), and did not put their name or signature on the chart (61.8%). In multivariable analysis, not following psychiatric history taking format at first contact [1.63 (1.04, 2.56)], the diagnosis of bipolar disorders [4.85 (2.01, 8.36)], drug discontinuation after a short duration of treatment [1.21 (1.02, 2.42)], poor documentation of patient data during follow up [3.10 (2.35, 4.43)], absence of name and signature of treating physician on the chart [7.58 (2.64, 21.79)], and failing to treat medication side effect [2.55 (1.02, 6.39)] were found to significant predictors of relapse among the participants.

Conclusions The findings provided evidence of notably higher rates of deficits in adherence to the existing guideline of basic psychiatric care, which resulted in a higher risk of relapse among patients with severe psychiatric disorders.

Introduction

Epidemiological data suggest that there exists a clear gap between what is recommended or effective care and what happens in real clinical practice (1, 2). Studies have suggested that developing good trends in clinical practices in adherence to the recommended processes and guidelines for basic care have been associated with good health outcomes (3). For example, a study conducted in Australia by Hubbard and colleagues found that adherence to the recommended treatment guidelines has been associated with good rehabilitation outcomes and recovery from stroke (4). This study found that following the recommended guidelines of management was associated with early discharge, satisfactory response to medical and psychological therapy, and better overall recovery from the medical conditions(5). In another study by Hepner et.al. adherence to the recommended treatment guidelines was associated with good depression outcomes in primary health care (6). A 2005 study also showed that provider's adherence to testament guidelines was associated with larger reductions in depressive and

other psychiatric disorder symptoms(including bipolar disorders symptoms) over time (7). Other studies have also reported that adherence to practical guidelines of care was consistently linked with good mental health outcomes (2, 8).

However, the existing scientific data suggest that a significant proportion of health professionals involved in the care and treatment of people with mental health problems did not adhere to the suggested guideline of care. For instance, in a study conducted in the united states in 2012, a significant number of professionals involved in the management of common mental disorders did not adhere to the recommended guidelines of care, which resulted in poor treatment outcomes. outcomes (9). A recent study also found that more than half of provides did not follow the recommended guidelines of care for depressive problems, which is lowest for severe depressive problems when compared to mild or moderate symptoms (10).

Generally, there are a few studies that assessed provider's adherence to the recommended guidelines of care for patients with mental health problems and the associated effects on patient outcomes, which are all confined to developed countries. To the best of our knowledge, this is the first study to evaluate adherence to the recommended guidelines of care in patients with severe mental disorders – schizophrenia, bipolar, and major depressive disorders and the association with relapse. We hypothesized that a larger number of professionals might be non-adherent to the recommended guidelines of care which could be associated with higher risks of relapse in a patient.

Methodology

Study design, study area, and period

A retrospective chart review was conducted from April 01-May-30/2020 at Amanuel Mental Specialized Hospital.

Target population

A chart of all patients with severe mental illness who are on follow-up at Amanuel Mental Specialized Hospital.

Study population

All charts of patients who had been on follow-up at Amanuel Mental specialized hospital in 2015-2019.

Inclusion Criteria

All charts of patients who had been on follow-up at Amanuel Mental specialized hospital in 2015-2019.

Exclusion criteria

If the old chart of the patient is lost in between the follow-up.

Sample size and sampling procedure

The sample size for this study was determined by using single population proportion formula with the following assumptions:

Since there was no study conducted in developing countries regarding the raised issue, we used a 50% proportion of the population.

Level of significance ($\alpha = 0.05$)

$Z_{\alpha/2} = 1.96$

Margin of error to be 5% ($d = 0.05$)

$$n = \frac{(Z_{\alpha/2})^2 \cdot P(1-P)}{d^2} = \frac{(1.96)^2 \cdot 0.5(1-0.5)}{(0.05)^2}$$

$$n = 384$$

So the sample size for his study was 384 with a 5% nonresponse rate, and the final sample size for the study is 401.

Sampling technique

A systematic random sampling of the charts 2015-2019 of patients who came for follow-up in April 01-May-30/2020 to Amanuel Mental Specialized hospital was conducted. The expected number of patients with severe mental illness who come for follow-up in two months on average was 15,680. The sampling interval was determined by dividing the total study population; 15,680 with severe mental illness; who are on follow-up during the two-month data collection period by total sample size (403). The sampling interval was: $15,680 / 403 \approx 38$. The first was selected by lottery method from the first 38 charts, and the next respondent was chosen at regular intervals of every 38th charts.

Measures used for data collection

The instrument used for data collection was developed by a team of experienced experts in mental health services and research in accordance with the guidelines of care in mental health services. The instrument was then tested on 5% of the charts and modified accordingly. The instrument which was used to assess socio-demographic factors is also developed by the research team.

Data collection procedure

A semi-structured and structured questionnaire was used to evaluate the chart. Four Degree level mental health professionals were hired as data collectors and they were supervised by one psychiatrist. The English version of the questionnaire was used for data collection.

Data Quality Control

A pretest was done on 5% of the sample to check whether there is a common understanding among the data collectors on the developed questionnaire. All filled data was checked immediately at the end of the chart review. During we experienced any missed data or inappropriate data, the patient's chart was reviewed again to correct the inappropriate data or to be sure that the information is missed on the chart.

Data processing and Analysis

The collected data was checked for completeness, entered into Epidata version 3.1, exported to SPSS version 20 for further analysis. Descriptive statistics was used to present the data in frequency and percentage. Binary logistic regression was used to measure the association between trends of clinical practice and relapse. OR and 95% CI was used to see the strength of association and P-value was used to see the statistical significance of the association.

Ethical consideration

Ethical clearance was obtained from the institution review board (IRB) of Amanuel Mental Specialized Hospital. The confidentiality of the chart and the information contained in the chart were kept. For the sake of anonymity, the name of the patient wasn't written on the questionnaire.

Results

Sociodemographic characteristics of the participants

We have reviewed a total of 401 charts for this study. The mean age of the patients at first contact was 35.3 with a standard deviation of ± 10.3 . Most of the extracted data was from a chart of male patients

(225 (56.1%)). The majority of the patients were from the Oromo ethnic group. Most of the participants were single (57.1%) and unemployed (72.8%). (Table 1).

Trends of Clinical Practice and other clinical factors

Slightly more than half the patients had a history of admission (53.9%) and relapse during the study period (52.6%). Most of the patients (55.1%) were diagnosed with Schizophrenia at first contact and recently 61.1% have received a diagnosis of Schizophrenia. At first contact, about 11% of the management plan didn't match the initial diagnosis. From the recently taken history, about 73.6% didn't follow the recommended history-taking format for mental health evaluation. On most of the reviewed charts (61.8%), there was no name or signature of the treating clinician. From the side effects developed, about 94.3% were not diagnosed and 41.2% were not treated (**Table 2**)

Association between trends of clinical practice and relapse in patients with SMI

In our multivariable analysis, not following the recommended psychiatry history taking format (1.634 (1.044, 2.557)), current Diagnosis (Schizophrenia 4.849 (2.006, 8.360) and Bipolar Disorder 14.667 (2.439, 88.198)), duration of treatment did not match with the type of recent diagnosis (1.21 (1.020, 2.419)), clinician note at each follow up was not documented in chronological order (3.101 (2.346, 4.426)), no name and signature of the clinician at the end of the document (7.578 (2.635, 21.793)), and no treatment for the side of medications (2.547 (1.015, 6.392)) were significantly associated with relapse (**Table 3**).

Discussion

To the best of our knowledge, this is the first study to evaluate adherence to the recommended guidelines of care in patients with severe mental disorders and the association with relapse. The findings demonstrated a significant deficit in adherence to the recommended practices of basic psychiatric services. The vast majority of professionals were not following the appropriate psychiatry history-taking format at first contact (73.6%), not documented the reasons for drug discontinuation (88.5%), did not follow the correct guideline of shifting across psychotropic medications (86.8%), and did not put their name or signature on the chart (61.8%). In multivariable analysis, not following psychiatric history taking format at first contact, diagnosis of bipolar disorder or schizophrenia, drug discontinuation after a short duration of treatment, poor documentation of patient data during follow up, absence of name and signature of treating physician on the chart, and failing to treat medication side effect were found to significant predictors of relapse among the participants. The results suggest the urgent need for training and subsequent follow-up of the professionals regarding adherence to the recommended practices during their routine psychiatric care.

Our findings suggest that the psychiatric practices including history taking and documentation process, transparency of treating physicians, shifting across medications, and management of medication side effects, and risk assessment of the patients were against the national and international guideline of care or management of people with mental health problems (11, 12). These findings are supported by the

reported results from prior studies. For example, a 2012 study conducted in the United States has reported that a significant number of professionals involved in the management of common mental disorders did not adhere to the recommended guidelines of care that resulted in poor treatment outcomes (9). Another study also found that roughly half of healthy providers did not follow the recommended guidelines of care and interventions for depressive problems with significantly lower adherence rates for severe depressive problems when compared to mild or moderate symptoms (10).

Regarding the associated factors of suicide, in this study, not following the appropriate psychiatry history-taking format at first contact was associated with 1.63 increased odds of experiencing relapse compared to following psychiatric history-taking format [1.63 (1.04, 2.56)]. This is due to the fact that if the detailed history of the patient was not documented well; the management plan wouldn't be comprehensive which directly affects treatment outcome and progress of the problem and consequently leading to adverse outcomes such as relapse.

Those patients with a diagnosis of Bipolar disorder were 4.85 times more likely to encounter relapse compared to that of major depressive disorder [4.849 (2.006, 8.360)]. This may be due to the episodic nature of Bipolar disorder through the course of the illness. Another possibility is the deteriorating nature of schizophrenia through the course of the illness.

We also found that failure to follow the correct guideline of shifting across psychotropic medication was associated with a 1.21 higher odds of relapse among the participants [1.21 (1.02, 2.42)]. This might be due to the fact that immature discontinuation of medication leaves the illness in an attenuated state; which comes again in mild provoking conditions.

Moreover, not documented reasons for drug discontinuation have been linked with a 3.10 increased odds of relapse [3.10 (2.35, 4.43)]. Similarly, failure to put a name or signature on the chart (health professionals) was associated with a 7.58 odds of relapse in patients with severe mental illness [7.58 (2.64, 21.79)]. The possible reason for this finding could be failing to put neither name nor signature at the end of the documentation shows the feeling of urgency and rushing to end the communication with the patient during an interview which affects detecting all problems of the patient and may lead to future relapse.

Finally, failing to treat medication side effects was linked with a 2.55 odd of increasing relapse in patients [2.54 (1.02, 6.39)]. The possible reason for this association is; the patients may prefer stopping the medication and follow up to stop the pain and suffering from side effects, which subsequently worsen their illness (leads to relapse).

The strength and limitations of the study

The present study has several strengths. First, being the first study to assess adherence to the recommended guidelines of care in patients with severe mental disorders and the association with relapse. Second, we have examined the risk of relapse including important confounders related to general

principles of medical practices. Third, the inclusion of adequate number of participants in the final analysis.

Our study has also some limitations: (1) because of the nature of the study (cross-sectional) the association observed between different factors and suicide may not represent cause –the temporality of the variables (exposures vs. outcome) has been not well established. has been used.

Conclusions

In summary, in this study we found that the vast majority of professionals were not following the appropriate psychiatry history-taking format at first contact (73.6%), not documented the reasons for drug discontinuation (88.5%), did not follow the correct guideline of shifting across psychotropic medications (86.8%), and did not put their name or signature on the chart (61.8%). Not following psychiatric history taking format at first contact, the diagnosis of bipolar disorders, drug discontinuation after a short duration of treatment, poor documentation of patient data during follow up, absence of name and signature of treating physician on the chart, and failing to treat medication side effect were found to significant predictors of relapse among the participants. The findings suggest the need for appropriate training and capacity building of the health care professions to the benefits and the ramifications of adherence to the clinical guideline of care. The necessary leaders or stakeholders must follow the professional whether or not they are practicing in accordance with the recommended guidelines and take appropriate measures as early as possible.

Declarations

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Authors' contributions

TF conceived the study and was involved in the study design, reviewed the article, analysis, report writing and drafted the manuscript. GA, KH, EF and EH were involved in the study design, analysis and drafted the manuscript. AK, ZN were involved in

writing and edition of the revised manuscript. All authors read and approved the final manuscript.

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Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Ethics approval and consent to participate

Ethical approval was obtained from the Amanuel Mental Specialized Hospital. Confidentiality was maintained at all levels of the survey. Informed, written consent was obtained from each study participant to review their charts.

Consent for publication

N/A.

Competing interests

The authors declare that they have no competing interests.

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Tables

Table 1: The distribution of participants by their sociodemographic status

Variables	Frequency	Percentage
Age	Mean & SD = 35.3±10.3	
Sex	Male	225
	Female	176
Marital Status	Married	134
	Single	229
	Divorced	34
	Widowed	4
Ethnicity	Oromo	185
	Amhara	112
	Gurage	54
	Others*	50
Religion	Orthodox	228
	Muslim	108
	Protestant	64
	Others**	1
Occupation	Employed	109
	Non employed	292
Educational status	Illiterate	68
	Elementary	144
	High school	126
	Collage and Above	63

*Silte, Tigre, Hadya

** Catholic, Adventist, Waaqeffataa

Table 2: Frequency and Percentage for Trends of clinical practice and other clinical factors.

Variables		Frequency	Percentage
History of admission	No	185	46.1
	Yes	216	53.9
History of relapse	No	185	46.1
	Yes	211	52.6
	Missing	5	1.2
Diagnosis at first contact.	Schizophrenia	55.1	55.1
	Bipolar Disorder	20.9	20.9
	Major Depressive Disorder	8.5	8.5
	Other	15.5	15.5
Dx. Match to DSM Criteria	No	88	21.9
	Yes	313	78.1
Management Plan at first contact appropriate to the initial diagnosis	No	44	11.0
	Yes	357	89.0
Medication at first contact	AP	305	76.1
	AD	17	4.2
	MS	13	3.2
	AP+AD	36	9.0
	AP+MS	30	7.5
	MS+AD	305	76.1
Documentation at first contact follow Psychiatry Hx taking format	No	295	73.6
	Yes	106	26.4
Name/Signature of clinician available at the end of the last documentation	No	248	61.8
	Yes	153	38.2
Current Diagnosis	Schizophrenia	245	61.1
	Bipolar disorder	118	29.4
	Major Depressive Disorder	38	9.5
Current Diagnosis is appropriate to the Management	Matched	370	92.3
	Unmatched	31	7.7
Current medication	AP	201	50.1
	AD	6	1.5
	MS	3	.7
	AP+AD	66	16.5
	AP+MS	123	30.7
	MS+AD	2	.5
Symptoms of Medication side effect Present	No	301	75.1
	Yes	100	24.9
The side effect diagnosed	No	345	94.3
	Yes	21	5.7
The side effect treated	No	152	41.2
	Yes	217	58.8
Concurrent Prescription of two antipsychotics at the same time	No	289	72.4
	Yes	110	27.6
	Missing	2	.5
Preparations Concurrently prescribed at the	Two PO	9	8.1

same time	Depot & Po	102	91.9
The reason of concurrent two PO at the same time	Shifting process	2	18.2
	No reason	9	81.8
Medication shift (switch)	No	105	26.2
	Yes	296	73.8
Reason for medication shift documented	No	261	88.5
	Yes	34	11.5
Appropriateness of the way medication shift made	Appropriate	39	13.2
	Inappropriate	256	86.8
The recent management plan appropriately written	No	133	33.2
	Yes	267	66.6
	Missing	1	.2
The management plan is appropriate to the Diagnosis	No	14	5.2
	Yes	254	94.8
Duration of treatment match with type of recent Diagnosis	No	215	53.6
	Yes	186	46.4
The reason why duration of treatment not match with the type of recent Diagnosis	No improvement	59	26.9
	Multiple episodes	71	32.4
	Negligence	89	40.6
Off label prescription	No	396	98.8
	Yes	5	1.2
Risk assessment done	No	275	68.6
	Yes	126	31.4
Clinician note at each follow up is in a chronological order	No	305	76.1
	Yes	96	23.9

Table 3: The effect of trends of clinical practice on relapse

Variables		COR (95% CI)	AOR (95% CI)
Occupation	Employed	1	1
	Non employed	2.35(1.50, 3.71)	.62 (.26, 1.46)
Educational status	Illiterate	1	1
	Elementary	.92 (.52, 1.64)	.53 (.15, 1.93)
	High school	.97 (.54, 1.75)	.36 (.11, 1.15)
	Collage and Above	3.43 (1.60, 7.35)	.46 (.15, 1.40)
History of admission	No	1	1
	Yes	18.19 (11.00, 30.09)	34.77 (13.83, 87.40)
Diagnosis at first contact.	Schizophrenia	1.98 (1.11, 3.53)	.578(.21, 1.62)
	Bipolar Disorder	2.42 (1.23, 4.75)	.44 (.12, 1.63)
	Major Depressive Disorder	.35 (.12, .97)	.27 (.05, 1.43)
	Other	1	1
Documentation at first contact follow Psychiatry Hx taking format	No	1.63 (1.04, 2.56)	1.63 (1.04, 2.56)
	Yes	1	1
Current Diagnosis	Schizophrenia	3.22 (1.46, 7.10)	2.37 (.24, 8.02)
	Bipolar disorder	6.56 (2.81, 15.30)	4.85 (2.01, 8.36)
	Major Depressive Disorder	1	1
Concurrent Prescription of two antipsychotics at the same time	No	1	1
	Yes	1.43(.91, 2.23)	1.26 (.58, 2.75)
Medication shift (switch)	No	1	1
	Yes	2.08 (1.32, 3.27)	1.78(.79, 4.04)
The recent management plan appropriately written	No	7.48 (4.48, 12.50)	2.07 (.63, 6.79)
	Yes	1	1
Duration of treatment match with the type of recent Diagnosis	No	2.19 (1.47, 3.28)	1.21 (1.02, 2.42)
	Yes	1	1
Clinician note at each follow up is in a chronological order	No	3.56 (2.18, 5.84)	3.10 (2.35, 4.43)
	Yes	1	1
Name and signature of the clinician at the end of the document	No	5.96 (3.74, 9.48)	7.58 (2.64, 21.79)
	Yes	1	1
Side effect diagnosed	No	4.03 (1.33, 12.23)	.94 (.19, 4.66)
	Yes	1	1
Side effect Treated	No	2.38 (1.55, 3.64)	2.55 (1.02, 6.39)

	Yes	1	1
Risk assessment done	No	3.37 (2.12, 5.34)	.91 (.38, 2.17)
	Yes	1	1