

# Predictors of Adult Patient Satisfaction with Inpatient Nursing Care in Public Hospitals of Eastern Amhara Region, Northeastern Ethiopia, 2020

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**Background:** Providing a holistic nursing care approach and meeting patients' satisfaction has become a major health service performance indicator globally. Despite a number of efforts to improve patient satisfaction with nursing care, the practice is still insufficient to meet the required standard in the developing world including Ethiopia. Accordingly, this study was initiated to identify the gaps in adult patient satisfaction with inpatient nursing care practice in Eastern Amhara region, Ethiopia.

**Objective:** To assess the determinants of patient satisfaction with inpatient nursing care among public hospitals in Eastern Amhara region, northeastern Ethiopia.

**Methods:** A facility-based cross-sectional study was conducted between June 5, 2020 and July 4, 2020 in three public hospitals in the eastern region of Amhara. Systematic random sampling technique was used to recruit 244 participants from the sampled study. Newcastle Satisfaction with the Nursing Scale was used for data collection. Multivariate logistic regression analysis was used to determine the association and a  $P < 0.05$  was deemed to be significant.

**Results:** The overall proportion of admitted patient satisfaction with nursing care was 118 (48.4%). Besides, the capability of nurses at their job was the highest nursing care satisfaction parameter, 133 (54.5%), while nurse's awareness of patients' needs was the lowest parameter, 43 (17.6%), according to this study. Having primary education (AOR=8.575; 95% CI: 1.770, 14.532), being a farmer by occupation (AOR=3.702; 95% CI=1.047–13.087), and having a health insurance scheme (AOR=5.621; 95% CI=1.489–11.213) were the important predictors for patient satisfaction with inpatient nursing care.

**Conclusion:** The overall patient satisfaction with nursing care in this study was found to be sub-standard and needs a great deal of effort. It is recommended that employees shall be included in the health insurance package.

**Keywords:** patient satisfaction, nursing care, Northeastern Ethiopia

## Introduction

Globally, the healthcare sector has been changed and expanded and, thus, the standard of healthcare is being regarded as a right rather than a privilege.<sup>1</sup> The World Health Organization (WHO) and the International Council of Nurses (ICN) set the ultimate goal to maintain the highest possible level of health for all people, and the provision of high-quality care to attain this objective.<sup>2</sup> Nurses are the first-line individuals most likely to meet, spend the most time with, and rely on during

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their hospitalization for rehabilitation. In assessing the overall satisfaction of patients' hospitalization experience, nursing care plays a prominent role.<sup>3,4</sup>

Patient satisfaction has been defined in a variety of ways by scholars. It has been defined as people's expectations for healthcare services on the basis of health, disease, quality-of-life, and other requirements.<sup>3</sup> The American Nurses Association (2000) describes patient satisfaction with nursing care as the perception of patients about the care received during their hospitalization from nursing staff.<sup>5</sup> Moreover, patient satisfaction measurement provided key performance information, thus contributing to overall quality management. On this basis, it provides information on the performance of the provider in fulfilling the client's values and aspirations, topics on which the client is the ultimate authority.<sup>6</sup>

The World Bank study group in Ethiopia reports that the ratio of health workers to the population is 0.84 per 1,000 population. Although Ethiopia has the highest number of health workers in sub-Saharan Africa, the proportion of health workers in the population is below the WHO level of 2.28 per 1,000 population.<sup>7</sup> In Ethiopia, the ratio of nurses (0.26 nurses per 1,000 population) is the second largest community of health workers.<sup>8</sup> Ethiopia has also reached the minimum requirement of WHO recommendation of one nurse per 5,000 population.<sup>9</sup>

Previous studies have identified a number of factors that have a direct effect on patient satisfaction with nursing care. These include perceived expectations of the nurse's response, perceived experience of compassionate respectfulness and care, and perceived experience on the institutional aspect,<sup>10</sup> individual patient socio-demographic factors,<sup>11</sup> culture, and health status.<sup>12</sup> In addition, other factors include, had a history of hospitalization, surgery, and hostility,<sup>13</sup> and the form of nursing care provided.<sup>14,15</sup>

The Ethiopian Federal Ministry of Health (FMOH) has undertaken reform efforts to improve the quality of nursing care and patient satisfaction across the nation over the past 10 years. These include the launch of the Patient Compassionate, Respectful, and Caring (CRC) initiative, the launch of the national dressing code, and the development of national standards for quality improvement in nursing services and audit tools. In addition, nursing and training of nurses in various specialties has been carried out.<sup>16,17</sup>

Several studies have been developed in recent years to find out how hospitalized patients perceive the care they have received.<sup>18,19</sup> However, only single institution and outdated studies have been documented in the study area.

This study was therefore initiated to close the gap in information on the status and associated factors of adult patient satisfaction with inpatient nursing care in the Eastern Amhara region, Northeastern Ethiopia. It therefore helps hospital managers, nursing service leaders, and various institutions to strengthen nursing initiatives to promote the quality of nursing care by identifying gaps in resource allocation, training, and skills.

## Methods and Materials

### Study Area and Period

The study was conducted in three public hospitals in the Eastern Amhara Region (Dessie Comprehensive Hospital, Woldia Comprehensive Hospital, and the Kemisse General Hospital) from June 5, 2020 to July 4, 2020. These three public hospitals have been providing services to more than 10 million people residing in the south wollo zone, the north wollo zone, the Oromia zone, the Waguhumra zone, the afar region, and the south Tigray zone.

### Study Design

A facility-based cross-sectional study was used.

### Eligibility Criteria

Patients were included in the study if they met the following inclusion criteria: adults  $\geq 18$  years of age, conscious, articulate, and time-based, person-and place-oriented; admitted to medical, surgical, and gynecological unit for at least 2 days, and able to give informed consent. Those patients who were not co-operative and had serious illness during the study period were removed from the study.

### Sampling Size

A single population proportion formula was employed to determine the sample size. The following assumptions were considered: 95% level of confidence, 5% margin of error, as well as 82.5% of inpatient satisfaction on nursing care in a similar study done in Debre Markos Referral Hospital.<sup>20</sup> By adding a 10% non-response rate, therefore, the final sample size became 244.

### Sampling Procedure

In order to pick a representative sample of patients from each hospital, the total number of patients in the last 6 months has been collected from each hospital. An estimate of the total number of patients to be admitted during the study period (1 month) was then made. Proportional

allocation to sample size was done. Based on this, 122 patients were included from Dessie Comprehensive Hospital, 85 patients from Woldia Comprehensive Hospital, and 37 patients from Kemisse General Hospital. A list of patients for stays of 2 or more nights in the wards was obtained once at 10 a.m. and another one at about 2 p.m. Ultimately, a systematic random sampling technique was used to obtain the study subjects for every 8th patient.

## Operational Definition

Using the adopted standard questionnaire, the Newcastle Satisfaction with Nursing Scale (NSNS) was used to measure the patients' satisfaction with nursing care. The scale of satisfaction contains 19-items. On a five-point Likert scale, all parameters are graded (1=not satisfied at all, 2=slightly satisfied, 3=quite satisfied, 4=very satisfied, and 5=absolutely satisfied). The responses of "completely satisfied"/"very satisfied" (5 and 4) were recorded as "satisfied" (1) and those of "quite satisfied"/"barely satisfied"/"not at all satisfied" (3, 2, and 1) were recorded as "not satisfied" (0).<sup>21,22</sup>

Each individual response was summed up and the mean score was taken as points cut to classify patients as satisfied and dissatisfied. On this basis, those patients who scored above the mean score of satisfaction questions were deemed to be satisfied patients in nursing care and those who scored below the mean score were considered as dissatisfied.<sup>21,22</sup>

## Data Collection Technique and Instrument

A structured questionnaire was used to collect data via a face-to-face interview. The questionnaire included: A) socio-demographic factors such as age, educational status, occupational status, monthly income, and marital status; B) Patient-related characteristics such as ward type, means of admission, type of payment, and room size and available bed; C) Patient perception with inpatient Nursing care items; and D) Newcastle Satisfaction with Nursing Scale: 19 items on a five-point Likert scale (1=Not at all satisfied, 5=Completely satisfied) and designed to measure the multidimensional aspect of nursing care, such as attention, availability, openness, reassurance, individual treatment, information, professionalism, knowledge, ward, and environmental management. The NSNS tool had an excellent reliability (Cronbach's  $\alpha=0.96$ ) and construct validity in

English and Italian version.<sup>21,22</sup> In this study, the NSNS tool had an excellent reliability with a Cronbach's  $\alpha$  of 0.97 and intraclass correlation of 0.975.

## Data Quality Management and Analysis

The tool was translated into local Amharic language. Training was given to data collectors and supervisors as well as a pre-test was performed at 5% of the sample size in Akesta referral hospital. The data was cleaned, encoded, and entered into Epi Info version 3.5.3 and exported to SPSS version 25 of the statistical package for analysis. Descriptive statistics were used to compute and assess the extent of patient satisfaction. In addition, multivariate logistic regression analysis with a 95% confidence interval was used to evaluate the predictors of patient satisfaction with nursing care. Variables with a *P*-value of  $<0.05$  were used as a criterion for statistical significance.

## Result

A total of 244 respondents admitted to the inpatient department to this study were interviewed with a response rate of 100%.

## Socio-Demographic Characteristics of the Respondents

The mean age of the respondents was 37.83 years ( $SD=\pm 16.3$  years). The majority of respondents (70, 28.7%), were between 21 and 30 years of age, and 139 (57%) were females. Moreover, 147 (60.2%) were married, and 127 (52%) were urban residents (Table 1).

## Patient-Related Characteristics

The majority of respondents (73, 29.9%) were allocated to the surgical ward. The main means of admission for most of the respondents (79, 32.4%), was an emergency case. Two hundred and twenty-two (91%) of the respondents were also admitted to rooms with more than two beds per room. Besides, 140 (57.4%) patients obtained care through payment and 157 (64.3%) of the patients remained in hospital for 2–7 nights, with an average period of stay (nights) of 4.7 ( $SD=\pm 1.83$ ). Thirty-four patients did not realize nurses were allocated for them and 83 (34%) patients spent much of their time (7–12 hours) with their patient attendants rather than the assigned nurses (Table 2).

**Table 1** Socio-Demographic Characteristics of the Respondents in Public Hospitals of Eastern Amhara Region, Northeastern Ethiopia, 2020 (N=244)

Sociodemographic Variables	Frequency (N=244)	Percent
<b>Age of respondents</b>		
18–20 years	33	13.5
21–30 years	70	28.7
31–40 years	55	22.5
41–50 years	33	13.5
51–60 years	24	9.8
>60 years	29	11.9
<b>Marital status</b>		
Married	147	60.2
Single	62	25.4
Divorced	15	6.1
Widowed	20	8.2
<b>Educational status</b>		
Unable to read & write	48	19.7
Able to read & write	60	24.6
Primary education	49	20.1
Secondary education	48	19.7
Higher education	39	16.0
<b>Religious status</b>		
Orthodox	93	38.5
Protestant	141	57.8
Muslim	10	4.1
<b>Ethnicity</b>		
Amhara	223	91.4
Oromo	17	7.0
Others	4	1.6
<b>Occupation</b>		
Private work	68	27.9
Government work	42	17.2
Housewife	56	23.0
Farmer	34	13.9
Others	44	18.0
<b>Monthly income</b>		
<500 Birr	124	50.8
500–1,000 Birr	46	18.9
1,001–1,500 Birr	28	11.5
>1,500 Birr	46	18.9
<b>Sex</b>		
Male	105	43.0
Female	139	57.0

(Continued)

**Table 1** (Continued).

Sociodemographic Variables	Frequency (N=244)	Percent
<b>Residence</b>		
Urban	127	52.0
Rural	117	48.0
<b>Name of hospitals</b>		
Dessie Comprehensive Hospital	122	50.0
Woldia Comprehensive Hospital	85	34.8
Kemisse General Hospital	37	15.2

## Patient Perception with Inpatient Nursing Care

Two hundred and ten (86.1%) patients reported that they got the expected nursing care during their stay in the hospitals, and 200 (81.96%) of them recommended their families and friends to visit the hospital that they had stayed in.

## Adult Patient Satisfaction with Inpatient Nursing Care

The magnitude of patient satisfaction with inpatient nursing care was 118 (48.4%) (Figure 1). The capability of nurses at their job was the highest (133, 54.5%) nursing care satisfaction parameter, followed by the amount of time spent by nurses with patients (129, 52.9%). On the contrary, nurse's awareness of patients' needs (43, 17.6%), and the amount of privacy nurses gave to them (44, 18.0%) were found to be lowest parameters with regard to patient satisfaction (Table 3).

## Factors Associated with Patient Satisfaction in Nursing Care

According to multivariate logistic regression analysis, being a farmer by occupation, having primary education, and using health insurance were the determinants of patient satisfaction. Those respondents who had primary education were almost nine (AOR=8.575; 95% CI=1.770–14.532) times more likely to be pleased with nursing care than their counterparts. The odds of farmers by occupation were almost four (AOR=3.702; 95% CI=1.047–13.087) times more likely to be satisfied with nursing care than the private employee. Likewise, people using health

**Table 2** Patient-Related Characteristics of the Respondents in Public Hospitals of Eastern Amhara Region, Northeastern Ethiopia, 2020 (N=244)

Variables	Response (N=244)	Percent
<b>Assigned ward</b>		
Medical	66	27.0
Surgical	73	29.9
Gynecology	14	5.7
Other	91	37.3
<b>Means of admission</b>		
Emergency	79	32.4
Direct to unit	63	25.8
After days procedure	44	18.0
Transferred from another Facility	58	23.8
<b>Ward size</b>		
Single Bed	17	7.0
Two Beds	5	2.0
More than Two Beds	222	91.0
<b>Number of days (nights) stayed in hospital</b>		
2–7 days	157	64.3
8–15 days	69	28.3
16–30 days	10	4.1
31–60 days	8	3.3
<b>Ward payment type</b>		
Free	32	13.1
Payment	140	57.4
Health insurance	72	29.5
<b>History of previous admission</b>		
Yes	27	11.1
No	217	88.9
<b>Current medical/surgical condition</b>		
Acute illness	126	51.6
Chronic illness	118	48.4
<b>Having another disease/chronic illness in addition to current health problem</b>		
Yes	12	4.9
No	232	95.1
<b>Do you have assigned nurse</b>		
Yes	210	86.1
No	5	2.0
Not sure	29	11.9
<b>Number of hours spent with patient attendant</b>		

(Continued)

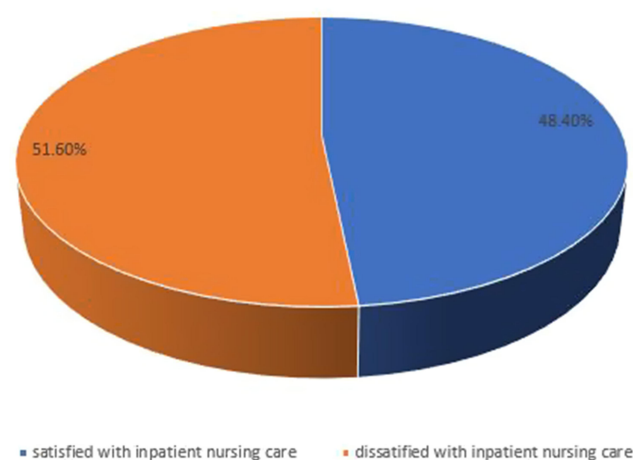
**Table 2** (Continued).

Variables	Response (N=244)	Percent
1–6 hours	61	25.0
7–12 hours	83	34.0
13–18 hours	43	17.6
19–24 hours	57	23.4
<b>Attendant relationship with patient</b>		
Parent	66	27.0
Child	80	32.8
Relative	32	13.1
Spouse	63	25.8
Unrelated	3	1.2
Other	66	27.0

insurance were 5.621 (AOR: 95% CI=1.489–11.213) times more likely to be satisfied with nursing care than free service consumers. In addition, being admitted to more than two beds per room ward size and in the age group between 31–40 years of age were protective factors for patient satisfaction with inpatient nursing care (Table 4).

## Discussion

The proportion of patient satisfaction with inpatient nursing care was found to be 48.4% in this study. Thus, the finding is consistent with that of studies done in India (52%), Pakistan (45%), Eastern Ethiopia (52.75%), and Northeast Ethiopia (52.5%).<sup>23–26</sup> Conversely, the

**Adult patient satisfaction with inpatient nursing care****Figure 1** Adult patient satisfaction with inpatient nursing care in public hospitals of Eastern Amhara region, northeastern Ethiopia, 2020.



**Table 3** Frequency of Adult Patient Satisfaction with Inpatient Nursing Care Services in Public Hospitals of Eastern Amhara Region, Northeastern Ethiopia, 2020 (N=244)

Items	Satisfaction N (%)	Dissatisfaction N (%)
The amount of time nurses spent	129 (52.9%)	115 (47.1%)
How capable nurses were at their job	133 (54.5%)	111 (45.5%)
There always being a nurse around when needed	129 (52.9%)	115 (47.1%)
The amount nurses knew about patients care	113 (46.3%)	131 (53.7%)
Quickness of nurses upon call by patients	102 (41.8%)	142 (58.2%)
The way the nurses made patients feel at home	98 (40.2%)	146 (59.8%)
The extent of information nurses gave to patients about their condition and treatment	107 (43.9%)	137 (56.1%)
Frequency of check up by nurses	109 (44.7%)	135 (55.3%)
Nurses' helpfulness	104 (42.6%)	140 (57.4%)
The way nurses explained things to patients	97 (39.8%)	147 (60.2%)
Nurses support of patient's relatives' or friends' minds at rest	96 (39.3%)	148 (60.7%)
Nurses' manner in going about their work	99 (40.6%)	145 (59.4%)
The type of information nurses gave to patients about their condition and treatment	80 (32.8%)	164 (67.2%)
Nurses' treatment of each patient as an individual	62 (25.4%)	182 (74.6%)
Willingness of nurses to listen patients worries and concerns	53 (21.7%)	191 (78.3%)
The amount of freedom patients was given on the ward	48 (19.7%)	196 (80.3%)
Willingness of nurses to respond to patient requests	49 (20.1%)	195 (79.9%)
The amount of privacy nurses gave to patients	44 (18.0%)	200 (82.0%)
Nurses' awareness of patient's needs	43 (17.6%)	201 (82.4%)

magnitude of patient satisfaction with nursing care, in this study, is higher than those done in Ghana (33%) and Debreberhan, Ethiopia (9.2%).<sup>27,28</sup> The disparity may be due to a difference in the sample size of the study and the patient flow burden among the study settings. Higher rates of patient satisfaction in nursing care have been registered from Saudi-Arabia (90.67%), Brazil (92%), and the Black Lion Hospital in Addis Ababa (90.1%) than this study,<sup>29–31</sup> since these facilities are well-structured and staffed with highly trained health professionals, primarily university-run, and provide special services to their clients.

This study found that those respondents with primary education were 8.575 (AOR: 95% CI=1.770–14.532) times more likely to be pleased with nursing care than to be unable to read and write. The report is consistent with the study conducted in Greece and Debreberhan, central Ethiopia.<sup>28,32</sup> This similarity may be attributed to the fact that those educated patients are relatively knowledgeable of healthcare facilities and therefore have higher expectation of nursing care than those who do not have formal education patients. Patient satisfaction is the patient's view of the treatment offered in relation to the anticipated treatment. Therefore, structured education allows the patient to equate the experience of the treatment rendered by the patient with the anticipated treatment.

The odds of farmers by occupation were nearly four (AOR=3.702; 95% CI=1.047–13.087) times more likely to be satisfied with nursing care than private workers. The report is consistent with a study done in Felegehiwot Hospital, northwestern Ethiopia.<sup>33</sup> This similarity might be due to health insurance service coverage in both settings. In this analysis, people using health insurance were 5.621 (AOR: 95% CI=1.489–11.213) times more likely to be happy with nursing care than free service consumers. In Ethiopia, the health insurance program does not directly involve government and private workers, which in turn contributes to workers being required to use the service by subscription. The medical cost burden may have an effect on patient satisfaction in health services, including nursing care.

## Strengths and Limitations

I have used a standardized, expert reviewed and pretested data collection tool, but it does not allow us to establish a cause and effect relationship.

## Conclusion

More than half of the study participants were unhappy with overall nursing care, rendering hospital nursing care below the standard. Farmers by occupation, primary education, and health insurance usage were significant

**Table 4** Factors Associated with Adult Patient Satisfaction with Inpatient Nursing Care in Public Hospitals of Eastern Amhara Region, Northeastern Ethiopia, 2020 (N=244)

Variables	Patient Satisfaction		COR (95% CI)	AOR (95% CI)
	Yes (%)	No (%)		
Educational status				
Unable to read & write	29 (60.4%)	19 (39.6%)	1	1
Able to read & write	27 (45.0%)	33 (55.0%)	1.865 (0.864–4.030)	2.269 (0.642–8.018)
Primary education	19 (38.8%)	30 (61.2%)	2.410 (1.066–5.447) *	8.575 (1.770–11.532) **
Secondary education	29 (60.4%)	19 (39.6%)	1.000 (0.441–2.266)	4.050 (0.751–21.851)
Higher education	14 (35.9%)	25 (64.1%)	2.726 (1.138–6.527) *	2.265 (0.299–17.150)
Occupation				
Private work	46 (67.6%)	22 (32.4%)	1	1
Government work	13 (31.0%)	29 (69.0%)	4.664 (2.037–10.679)	5.213 (1.728–15.725)
Housewife	32 (57.1%)	24 (42.9%)	1.568 (0.753–3.266)	3.155 (0.973–10.225)
Farmer	13 (38.2%)	21 (61.8%)	3.378 (1.432–7.968) *	3.702 (1.047–13.087) **
Others	14 (31.8%)	30 (68.2%)	4.481 (1.988–10.100) *	0.275 (0.037–2.026)
Ward payment type				
Free	23 (71.9%)	9 (28.1%)	1	1
Payment	63 (45.0%)	77 (55.0%)	3.123 (1.349–7.231) *	2.132 (0.644–7.058)
Health insurance	32 (44.4%)	40 (55.6%)	3.194 (1.299–7.857) *	5.621 (1.489–11.213) **
Ward size				
Single Bed	1 (5.9%)	16 (94.1%)	1	1
Two Bed	1 (20.0%)	4 (80.0%)	0.250 (0.013–4.924)	0.368 (0.011–11.956)
More than Two Beds	116 (52.3%)	106 (47.7%)	0.057 (0.007–0.438) *	0.046 (0.004–0.541) **
Age				
18–20 years	4 (12.1%)	29 (87.9%)	1.412 (0.458–4.350)	0.929 (0.189–4.565)
21–30 years	41 (58.6%)	29 (41.4%)	0.750 (0.274–2.051)	0.230 (0.049–1.092)
31–40 years	37 (67.3%)	18 (32.7%)	0.343 (0.136–0.870)	0.074 (0.013–0.438) **
41–50 years	16 (48.5%)	17 (51.5%)	0.499 (0.207–1.202)	0.214 (0.044–1.039)
51–60 years	8 (33.3%)	16 (66.7%)	5.118 (1.423–18.410) *	4.734 (2.66–23.514)
>60 years	12 (41.4%)	17 (58.6%)	1	1

**Notes:** \*Statistically significant at  $P < 0.05$  in bivariate analysis and \*\*statistically significant at  $P < 0.05$  in multivariate analysis.

predictors of patient satisfaction with nursing care. Therefore, it is recommended to include public servants and private workers in the health insurance scheme and awareness creation strategies regarding the rights of patients in nursing care shall be implemented to address the issues of patient satisfaction. In addition, further researches shall be done to evaluate the level of evidence-based nursing practice to assess the satisfaction level of clients.

## Abbreviations

AOR, adjusted odds ratio; COR, crude odds ratio; CRC, compassionate, respectful and caring; FMOH, Ethiopian

Federal Ministry of Health; ICN, International Council of Nurses; NSNS, Newcastle Satisfaction with Nursing Scale; SD, standard deviation; WHO, World Health Organization.

## Data-Sharing Statement

All data generated or analyzed during this study are included in the manuscript and are also available from the corresponding author up on request.

## Ethical Approval and Consent to Participate

The study protocol was evaluated and approved by wollo university college of medicine and health science with

reference No\_(WU/CMHS/211/2020) and Ethical clearance was obtained. Permission letters were also obtained from Permission letters was obtained from each hospital's medical directorate and Merton office. After giving clear and deep understanding about the aim of the study, written consent was obtained from each respondent before the interview is conducted. Moreover, this study was conducted in compliance with the Declaration of Helsinki. Anonymous data was taken and the confidentiality of participant's information was secured.

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## Author Contributions

The author made substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data; took part in drafting the article or revising it critically for important intellectual content; agreed to submit to the current journal; gave final approval of the version to be published; and agrees to be accountable for all aspects of the work.

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## Disclosure

The author declares that he has no conflicts of interest for this work.

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