



Original Article

Nursing students' perception and associated factors towards their educational environment in governmental universities of southwest Ethiopia, 2019

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ABSTRACT

Background & Aim: Due to many negative aspects of the educational environment students' have not well attained their professional demands that affect their perception and qualities of nursing care delivered to the community. The study was aimed to assess nursing students' perception and associated factors towards their educational environment in governmental universities of Southwest Ethiopia.

Methods & Materials: Institution based cross-sectional study was employed on 422 study subjects from April 9 to 23/2019. Proportionally allocated a simple random sampling technique was used to select the participants. The data was collected using a validated self-administered Dundee Ready Educational Environment Measure (DREEM) questionnaire and entered by Epi data 3.1 and exported to SPSS version 23 for analysis. Simple and multiple linear regressions were used and a total DREEM mean score, sub scores, and SD were computed. A P-value < 0.05 was considered as statistically significant.

Results: Overall mean perception of nursing students was 124.76/200 with Standard deviation (SD) of 0.065 which implies that more positive than the negative educational environment. The DREEM subscales mean scores of students' perception of learning, perception of teachers, academic self-perception, perception of atmospheres and students' social self-perception were 31.64/48, 25.4/44, 22.52/32, 29.17/48 and 16.08/28 with SD of (0.204,0.098,0.075,0.060 and 0.101) respectively. The multiple linear regressions revealed that there was statistically a significant relationship between students' perception with study years, support system, learning facilities; and memory, learning motivation, satisfaction, academic status, gender, marital status receptively.

Conclusion: Even though nursing students' perception of their educational environment was more positive than negative, it is not most satisfactory. Thus, to make it more attractive and an excellent university should adopt different strategies.

Introduction

Educational environment (EE) is defined as anything surrounds an educational institution that represents the climate within the classrooms, department, and even the institution in general (1). It also includes learners' viewpoints regarding infrastructures, learning opportunities, faculty competencies, faculty attitudes, and their socialization with peers (2). It has a crucial role in enhancing students' growth, competency, critical

thinking, independence, sense of mental wellbeing, and self-confidence (3). Students' satisfaction, academic success, and effective curriculum are the significant indicators of teaching and learning quality and related to several outcomes (4, 5). The Dundee Ready Educational Environment Measure (DREEM) instrument was first developed at the University of Dundee and currently provides and achieved its validation as international, standard "diagnostic inventory for measuring the quality of educational environment (6, 7). Also, EE influences how, why, and what students learn, which is vital to the success of the program.

The student's feedback is essential for the success of the educational climate. In Sub

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Saharan Africa more reforms need to increase the capacity of educators and mentors, the responsiveness of curricula, strong regulatory frameworks, and the availability of infrastructures and resources. Universities are responsible for the dissemination and transferring of knowledge, and providing specialized human resources (8). There was a scarcity of recorded data that shows the level of nursing students' perception and factors affecting their educational environment. In Ethiopia, the role of higher education is the backbone of the country's development efforts to eradicate poverty and improving the vision of quality and employability of university graduates (9).

There may be cultural and other determinants of how individuals view different qualitative aspects of a given EE, but perceived ratings accurately report their perceptions (10). Educational environment in nursing schools affects the quality and effectiveness of education. Ongoing educational assessment of different scientific disciplines is vital and helps to identify constraints and obstacles, to solve problems, identify strengths and weaknesses. Moreover, it allows positive aspects to be an advocate and effective solutions for potential problems to be implemented (11,12). Even if many studies were done in different countries in the world (2-27). Currently, there is no known study about nursing students' perceptions and factors affecting their EE in Ethiopia in general and study areas in particular. Thus this study was conducted to assess the level of nursing students' perception and associated factors towards their EE in governmental Universities of southwest Ethiopia.

Methods

The study was conducted at Jimma University (JU), Mizan-Tepi University (MTU), Wolkite University (WU) and Mettu University (MeU) from April 9 to 23/2019. The total number of undergraduate regular or generic nursing students' from year 1 to 4 in the study areas during the time of the study for the academic year 2019 was about 1173.

The sample size was calculated by single population proportion formula considering the expected proportion of nursing students' perception towards their EE of 50% because, there was no prior study conducted in nursing students' in Ethiopia, 95 % Confidence Interval (CI), 5% margin of error and 10% non-response rate. Then sample size was (422) proportionally allocated to each institution and their year of study. The sample frame was prepared according to their batches. Then a simple random sampling technique was applied to select those study subjects. Inclusion criteria were all undergraduate regular nursing Students' ranging from year 1 to 4 that avails during the time of data collection were as the sick students' and involuntary to participate were excluded from the study. Data were collected using self-administered covering students' demographic and educational background as well as the English version of the Dundee Ready Education Environment Measure (DREEM) questionnaire. The DREEM composed of 50 statements or items consisting of five subscales. Students' Perception of Learning (SPL) 12 items and maximum score of 48 and interpreted as: 1-12 very poor, 13-24 Teaching is viewed negatively, 25-36 A more positive perception and 37-48 learning highly effective; Students' Perception of Teachers (SPT) 11 items and maximum score of 44 and interpreted as: 0-11 bad, 12-22 In need of revision, 23-33 moving in the right direction, and 34-44 course organization model; Students' Academic Self-Perception (SASP) 8 items and maximum score of 32 and interpreted as: 0-8 feeling of total failure, 9-16 many negative aspects, 17-24 tending to more positive, and 25-32 reliable; Students' Perception of Atmosphere (SPA) composed of 12 items and maximum score of 48 and interpreted as: 0-12 poor environment, 13-24 there are aspects that need changes, 25-36 more positive attitudes and 37-48 a good overall perception; For the students' Social Self-Perception (SSSP) contains 7 items and maximum score of 28 and interpreted as: 0-7 inadequate, 8-14 not a nice place, 15-21 not so bad and 22-28 very good. The DREEM

has a maximum score of 200 indicating the ideal EE as perceived by the students'. The overall score is interpreted as 0-50 Very Poor; 51-100 many Problems; 101-150 More Positive than Negative, and 151-200 Excellent (29). Out of overall items, 41 are positive items that have a maximum score of 164 and the rest 9 are negative items that have a maximum score of 36, namely items number 4, 8, 9, 17, 25, 35, 39, 48 and 50. Data were collected by four trained data facilitators. To ensure the quality of data, two days of training was given for data collectors and supervisors. Internal consistency and reliability of the questionnaire were assessed by pre-test on 5% (21) subjects prior to the actual data collection on nursing students' of Wollega University which is out of the study area. Cronbach's alpha was computed (0.85) for all items to test for validity.

The ethical clearance was GHRPGD/501/2019, Date 04/04/2019 which taken from Institutional Review Board (IRB) of Jimma University, Institute of Health, and submitted to the concerned bodies. Study participants were briefed about the study and oral consent was obtained. The participants were informed that they have a full right not to participate in the study, but they also informed that their participation in the study is very important. In addition, the confidentiality of the information was assured and the privacy of the study population was respected and kept as well. Moreover, to ensure confidentiality the name of respondents were not written on the questionnaire.

The completed questionnaires were checked for inconsistencies and missed values. Before data entry, appropriate coding and editing were performed. Age was categorized according to WHO age classification (15-19, 20-24, 25-29, >30). Academic achievements (CCGPA) were measured through 2-2.49, 2.50-2.99, 3.00-3.49, 3.50-4.00. Data were entered into Epi data version 3.1 and analyzed by statistical package for social sciences (SPSS) version 23. The analysis plan was made by both simple linear and multiple regressions. Descriptive statistics and numerical variables

were used by means and SD. Categorical variables were presented in the form of frequencies and percentages. Before conducting analysis, all assumptions of linear regression were checked and fit for the analysis. This means that VIF was < 10, all variables are normally distributed across scatter plot, outcome variable is continuous, independent variables independently explain outcome variable and there was the linear relationship between the dependent and independent variables. Multiple linear regression was done and P-values <0.05 were considered as statistically significant. The results were summarized using tables, figures, and presented with narrative descriptions.

Results

Demographic characteristics of the respondents

A total of 405 (96%) students participated in this study. More than half of 204 (50.4%) of the respondents were males and 356 (87.9%) were age between 20-24 years with the mean age of (22.13± 2.128). About 373 (92.1%) students' were single. Majority 172 (42.5%), 107(26.4%) were Oromo and Amhara ethnic groups receptively. Regarding year of study 144 (35.5%) were year four and 156 (38.5%) had CCGPA 3.5 to 4.0 (Table1).

Nursing students' perception towards their educational environment

Out of the overall 50 DREEM questions which composed of overall 200 scores, the total minimum and maximum score was 51 and 185 receptively. The mean perception of nursing students' towards their EE was 124.76 (SD of 0.065). The status of nursing students' perception towards their educational environment based on the cut points were: 0-50=0(0%); 51-100=45(11.1%); 101-150=322(79.6%) and for 151-200 scored 38 (9.3%), the mean and SD of nursing students' perception towards their educational environment in the five domains were presented in (Table 2).

Table 1. Socio-demographic characteristics of regular nursing students' in governmental Universities of southwest Ethiopia, (n=405)

Variables	Values	N	(%)
Ethnicity	Oromo	172	42.5
	Amhara	107	26.4
	Tigre	15	3.7
	Gurage	40	9.9
	Kefa	55	13.6
	Others	16	4.0
Year of study	Year I	66	16.3
	Year II	82	20.2
	Year III	105	25.9
	Year IV	152	37.5
Gender	Female	204	50.4
	Male	201	49.6
Age	15-19 years	18	4.4
	20-24 years	356	87.9
	25-29 Years	26	6.4
	≥30	5	1.2
	Total	405	100.0
		Minimum=18	Maximum=36
CCGPA	2-2.49	48	11.9
	2.50-2.99	74	18.3
	3.00-3.49	127	31.4
	3.50-4.00	156	38.5
Residence	In the campus	384	94.8
	Outside the campus	21	5.2
High school attendance	Governmental	328	81.0
	Non-governmental	77	19.0

Table 2. Over all regular nursing student's perception towards their educational environments in governmental Universities of southwest Ethiopia, (n=405)

Domains	Minimum	Maximum	Mean	SD
SPL	1.52	3.09	31.61/48	0.204
SPT	1.01	2.82	25.4/44	0.098
SASP	2.21	3.18	22.52/32	0.075
SPA	1.38	2.61	29.17/48	0.060
SSSP	1.28	2.95	16.08/28	0.101
Total	51	185	124.76/200	0.056

Factors affecting nursing students' perception of their educational environments

Univariate analysis: The following variables were significant under the analysis of univariate analysis having a p-value of less than 0.05. Being a male, being married, coming from rural in residence, being age group of between 25-29, attending high school at the governmental institution, year of study (II), CCGPA between 3.0-3.49 and 3.50-4.0, able to remember all thing as needed, motivated to learn new thing from the teacher, those satisfied with teaching in the learning process, learning at the facility of adequate for the learning environment, having a good support system for stressed students were significantly associated.

Multiple regression analysis: The following variables were significantly associated with multiple regressions. The study revealed that year of study, availability of learning facilities and support system for stressed students' was identified by linear regression analysis whereas gender, marital status, CCGPA, motivation to learn new things from teachers, ability to remember all things as needed and Satisfaction with teaching and learning process was identified by multiple regression analysis. Accordingly, there was statistically a significant relationship between students' perception and year of study (P-value<0.05). As the year of study decreases nursing students' perception toward their EE was increased by 12.002 times for a first-year (95%CI 5.812-18.191), 9.241 times for the second year (95%CI: 3.652- 14.831) and 6.616 times for the third year (95%CI:1.648-11.585) than fourth-year students'. This implies that students' perceptions were decreased dramatically as years of study increases. There was a negative significant relationship between perception and gender; Being a male nursing student' were associated with 5.633 times decrease in perception towards EE than female nursing students' (95%CI: -9.767 up to -1.500). As the number of married students' increases by

one unit, perception towards their EE were decreased by 11.401 than single students' (95%CI:-19.829 up to -2.973) (P-value=0.008).

As the students' current cumulative grade point average (CCGPA) between 2.5-2.9 decreases by one unit, there was a 3.040 times reduction in perception towards their EE than students' who have CCGPA in between 3.00-4.00(95% CI:(-5.824 up to -.255) and also by (2.300) reduction in perception for students' who have CCGPA between 3.0-3.49 (95%CI: -3.847 up to-.753) than students who have CCGPA of 3.5-4.00. As the students' ability to memorizing things increases by one unit, there was a 6.032 times increase in perception towards their EE than students' who have a poor memory (95%CI: 1.943-10.121). The study revealed that, as the students' motivation to learn new things from their instructors reduced by one unit, their perception towards EE were decreased by (6.098) times than highly motivated students, (P-value=0.021) and (95%CI:(-11.285 up to -.912). As the students' satisfaction with the teaching and learning process decreases by one unit, their perception towards EE were also decreases by (6.915) than the increase in students' satisfaction (95% CI:-11.440 up to -2.390).

This study also reported that there is statistically a positive significant relationship between students' perception and adequacy of learning facilities (P-value=0.001). A one-unit increase in teaching and learning facilities, students' perception of their EE were increased by 7.501 than a decrease in learning facilities (95%CI: 3.164 up to 11.837). Similarly, there was statistically a significant association between students' support system and their perceptions (P-value 0.004). As a support system for stressed students' increases by one unit, there were an increase in perception towards their EE by 6.347, (95%CI :(2.014 up to 10.680) (*Table 3*).

Table 3. Factors associated with nursing student's perception towards their EE, in south west governmental universities of Ethiopia, (n=405)

Variables	95.0 %CI for B	P-Value	
Study years	Year I	12.002(5.812 to18.191)	.000
	Year II	9.241(3.652 to14.831)	.001
	Year III	6.616(1.648 to11.585)	.009
	Year IV	1	
Gender	Male	-5.633(-9.767 to-1.500)	.008
	Female	1	
Marital status	Single	1	
	Married	-11.401(-19.829 to-2.973)	.008
	Separated	-2.696(-14.077 to-14.077)	.642
	Divorced	-2.999(-12.032to6.033)	.514
CCGPA	Widowed	3.481(-6.210to13.172)	.480
	2-2.49	-3.771(-10.399 to2.856)	.264
	2.5-2.9	-3.040(-5.824 to-.255)	.032
	3.0-3.49	-2.300(-3.847 to-.753)	.004
3.50-4.00	1		
Able to remember all things as you need	6.032 (1.943 to10.121)	.004	
No	1		
Motivate to learn new things from teachers	-6.098 (-11.285to912)	.021	
Yes	1		
Satisfied with teaching and learning process	-6.915 (-11.440to2.390)	.003	
Yes	1		
Learning facilities adequate for teaching	7.501 (3.164 to 11.837)	.001	
Yes			
There is a good support system for stressed students'	6.347(2.014 to10.680)	.004	
No	1		

Discussions

The educational environment is a cornerstone for better productivity of higher educational institutions. Less conducive EE reduces the performance of students and a reason for the poor quality of education. This study was assessed nursing students' perceptions and associated factors towards their educational environment. Many studies throughout the world were reported that the total score of DREEM was ranged approximately between forty-five percent up to sixty-nine point five percent out of a maximum score of two hundred (6, 7).

The current study shows that the total maximum DREEM means score indicated "more positive than negative EE" according to Miles S (2012) and Yusoff MSB (2012). The result is comparable to the studies conducted in Malaysia sixty-three point thirty-nine percent in 2016, Pakistan fifty-nine point five percent in 2016, and India

sixty-two point six in 2014 (28,9,20) receptively. The result was higher than the study conducted in Iran in 2013 and 2016 fifty-seven point one percent and fifty-one point seventy-seven percent (8, 11) respectively. It is also higher than a similar study conducted in Ethiopia in 2017 at Tikur Anbessa Medical school students' of Addis Ababa University, fifty-five percent (14). This variation might be due to differences in the nature of medical students' and nursing students' perceptions.

The SPL mean score was indicating a more positive perception which implies that a good learning environment. This result is comparable with the study conducted at Pakistan in 2016, mean score thirty out of forty-eight, Indian medical school in 2014 mean score twenty-nine point four (9,20), but higher than the study conducted at Saudi Arabia in 2015, mean twenty-eight point

five, Ethiopia in 2017 at Tikur Anbessa Medical school of Addis Ababa University twenty-seven point four (12,14). The result for SPT indicated moving in the right direction which implies that, students have a good or positive perception for their instructors). This result was similar to a study conducted in India in 2014, mean twenty-six point eight, Saudi Arabia in 2015 mean twenty-five point eight, and Ethiopia in 2017 mean twenty-four point eight (10, 12,14). These similarities might be due to instructors in the study area were going to become a model for their students’.

For SASP domain was indicates feeling more on positive sides which implies students were a good academic self-perception. This result was comparative with a study conducted at Iran mean twenty point three, India and Saudi Arabia in 2014, mean twenty point one receptively (11,10,12). The SPA shows that mean twenty-nine point one indicated a more positive atmosphere which implies that EE was good for students. This result was also equivalent to a study conducted at Pakistan in 2014 mean twenty-nine, India in 2014, mean twenty-nine point one, but higher than the study conducted on medical students’ of Ethiopia in 2017, twenty-four point-one(8,20,14). The student's social self-perception (SSSP) showed that the EE was not too bad (this implies that nursing students’ social self-perception was neither good nor bad) and it needs careful and abrupt interventions. This finding was also in line with a study conducted at India in 2014, mean seventeen, Saudi Arabia in 2015, mean fifteen point seven (10,12).

The current study also revealed that there was statistically a significant relationship between students’ perception and CCGPA; This result was comparable with a study conducted in Saudi Arabia in 2014 and Sudan in 2018, (23, 24). The finding also shows that there was a significant relationship between perception and gender. This result was comparable with a study conducted in Iran in 2013 and 2016, and Pakistan in 2016 which shows that, more positive perceptions among females

students’ than males (8,11, 9). This study exhibited that, statistically a significant relationship between perception and study year; As a year of study increases, students’ perception towards their EE were decreased; this might be due to ever fresh students’ were not well exposed to different services like professional courses which involve them for workshops or demonstration which help them to judge the goodness or badness of the services or they didn’t yet adapt to many services given in the schools. This was comparable with a study conducted at Karachi in 2018, Iran in 2013 and India in 2016 (25, 8, 27).

Study limitation

Respondents’ bias might be introduced.

Conclusions

Even though around two-third of nursing students had a more positive perception towards their EE, there is still a significant number of students’ who rated their EE is not satisfactory. In this study, there was statistically a significant relationship of nursing students’ perception with Year of study, CCGPA, gender, marital status, students’ memory, motivation to learn, satisfaction with teaching and learning processes, students’ support system, and adequacy of learning facilities.

Recommendation

To make the EE more attractive and outstanding, Universities should develop strategies to provide a good support system for students’, accessing instructional materials, skill lab equipment’s and other infrastructures. Nursing schools/departments should use the result as a base line data and should regularly monitor their nursing students’ perception using DREEM tool. Minister of science and Higher Education of Ethiopia (MoSHEE) should commonly conduct quality based teaching and learning supervision and availing teaching aids. Instructors should ordinarily update themselves to provide quality education.

Other concerned governmental and non-governmental organizations should be involved in the EE. Researchers who want to conduct further study on this motivating area should profit the data as secondary sources.

Conflict of interests

Authors declare that there is no conflicts of interest.

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