



ACADEMIC ACHIEVEMENT AND ASSOCIATED FACTORS AMONG STUDENTS IN MIZAN AMAN COLLEGE OF HEALTH SCIENCE, SOUTHWEST ETHIOPIA, CROSS SECTIONAL STUDY, 2018

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ABSTRACT:

Background: College students academic achievement is students academic performance on teaching-learning process and measured by assessing their knowledge, skill and attitude based on specified objectives. From our best knowledge, there is information gap on students academic achievement and associated factors in Mizan Aman College of Health Science. Therefore, this study was intended to fill this gap and was expected to produce new information about college students academic achievement and its associated factors in a study area.

The main objective of study was to assess college students academic achievement and associated factors among level 3 and 4 students in Mizan Aman College of Health Science, Bench Maji Zone, South west Ethiopia, 2018.

Methods: Institution based cross sectional study design was employed. 265 students were randomly selected from three departments of college. Data was collected using interviewer administrated Structured questionnaires. Ethical clearance was obtained from Ethical review committee of Mizan Aman College of Health Science. Objective of the study explained to participants and written informed consent was obtained before conducting interview.

Result: Two hundred fifty college students were completed interview and giving 94% response rate. Student's academic achievement which is measured based on whether the students have passed or not the center of competency examination in Mizan Aman collage of health science. Those who passed were found to be 53.3%. In multivariate logistic regression analysis three variables were statistically significant with student's academic achievement. Those who had habit of reading in library (AOR=3.13, 95% CI: 2.02, 9.27), Attending class regularly (AOR=2.20, 95% CI: 1.28-3.80) and having no history of substance use (AOR=4.14 95% CI 1.65, 22.79) were found to be significantly associated with students academic achievement.

Conclusion: According to the study finding, student's academic achievement was low; which needs further attention to work on reading habits of students, behavioral changes such as restraining from substance use. Regular class attendance is significant factor to influence students academic achievement. Therefore, college officials, department co-coordinators as well as instructors should focus on students class attendance regularly.

KEYWORDS:

ACADEMIC ACHIEVEMENT, STUDENTS, MIZAN- AMAN, FACTORS, ETHIOPIA

BACKGROUND

Education was a social process and highly educated individuals can promote a society (1). In the era of globalization and technological revolutions, education plays a vital role in the development of human capital. Education ensures the acquisition of knowledge and skills that enable individuals to increase their productivity and improve their quality of life (2). In order to occupy a leading role in world's economy, the education system of a country must produce students who can compete in global job market (3). The students academic achievement plays an important role in producing the best quality graduates

who was become great leaders and manpower for the country contributing to the nation's economic and social development (4)

There are many factors that affect the student's academic achievement. These include but not exhaustive: student's motivation and individual characteristics, social, economic, cultural, and community character tics, family background, institutional characteristics, gender and other demographic factors(5). This study fills information gap on magnitude of students academic achievement and factors affecting for academic achievement.

METHODS

STUDY AREA AND PERIOD

This study was conducted in Mizan Aman College of Health Science, Bench Maji zone, SNNPR from April 15 to May 15, 2018. Mizan Aman College of Health Science is one of the four Governmental health science colleges in the Southern Nations Nationalities and Peoples Regional Government (SNNPRG) and was established in 1999 E.C. Primarily, this college began to train rural health extension workers who were supposed to provide basic health care services such as family planning methods, helping women to attend antenatal care and health facilities delivery, and working on reduction of morbidity and mortality of neonates. Nowadays, Mizan Aman College of Health Science is advanced its training on different mid level health care professionals. Currently, there are seven functional departments which are training students on comprehensive Nursing, Midwifery, Medical Laboratory Technicians, Health extension Practitioners, Health Information Technicians, Emergency Medical Technicians and Pharmacy Technicians.

STUDY DESIGN

Institution based Cross-sectional study design was employed.

SOURCE POPULATIONS

All Mizan Aman College of Health Sciences students.

STUDY POPULATION

Students who were exposed to both knowledge and skill examinations.

INCLUSION CRITERIA

Students who exposed to both knowledge and skill competency based exam and voluntary to give their consent were included.

EXCLUSION CRITERIA

Those students who are not exposed to competency based examinations were excluded.

SAMPLE SIZE DETERMINATION

Sample size was determined by using single population proportion formula. We used 50% of population proportion by considering half of students are competent on competency based examinations,

Assumptions: Z- value at 95% confidence interval(1.96) and 5% of margin of error was applied.

Therefore: $n = z^2_{\alpha/2}(pq)/d^2$

$$n = \frac{[(1.96)^2 (0.5 * 0.5)]}{(0.05)^2}$$

$$n = 384$$

Since, source population is (N=730) is < 10,000, we used finite population correction formula to reduce calculated sample size slightly.

$$nf = \frac{n}{1+n/N}$$

$$nf = \frac{384}{1+384/730} = 252$$

Adding 5% of non- response rate and final sample size was 265.

SAMPLING PROCEDURE AND TECHNIQUE

Stratified sampling technique was used to reach study participants. To get the representative sample; stratification was done by departments including comprehensive nursing, Midwifery, Health extension students. Then, it was stratified by their level as level III and IV from each. Finally, proportional number of study participants was selected from each level of study using simple random sampling technique.

DATA COLLECTION TOOLS AND TECHNIQUES

Structured questionnaires adapted to assess factors affecting students academic achievement from previously published similar studies. (A) Socio demographic characteristics of students and their parents (B) Teaching learning factors (C), Institution related factors were included.

DEPENDENT VARIABLE

STUDENTS ACADEMIC ACHIEVEMENT.

INDEPENDENT VARIABLES

SOCIOECONOMIC CHARACTERISTICS:- Age, Sex, Student marital status, Parental education level, Family income, Student income

TEACHING LEARNING FACTORS:- motivation to learn, length of time spent for study, class attendance, expectation from department, understanding of teaching language, students admission criteria, attitude to study subject matter, library use, habit of substance use, instructors initiation to taught, presence of guidance and tutorial.

DATA QUALITY ASSURANCE.

Data was collected by using different parts of structured questionnaire including both students and parents Sociodemographic factors, college related factors to identify associated factors with students academic achievement. The questionnaire was prepared in English language and pretested to its validity and reliability by using 5% (14) sample size in other similar college students (Aman polytechnic college) and pretest result showed as cronbach alpha was 0.87. Six data collectors and 3 supervisors were trained, demonstrated, and practiced on the data collection technique to be familiar with the tools. The data was checked by supervisors and investigators about their completeness and missed values.

DATA ANALYSIS

Data was entered by using Epi- Data version 3.1 and then exported to SPSS version 21 for analysis purpose. Before analysis, missing values checked and new categories were created as needed. Descriptive statistics (frequencies, percentage) was performed. Bivariate logistic regression analysis was employed to determine the crude association between dependent variable with each

independent variables. Those exposure variables with p-value <0.25 were entered in to multivariable logistic regression analysis. Multivariable logistic regression analysis was employed to see each independent predictors by controlling confounders. Adjusted odds ratio at 95% CI with p-value<0.05 was used to identify statistically significant association between dependent and independent variables.

OPERATIONAL DEFINITIONS

STUDENT’S ACADEMIC ACHIEVEMENT: good academic achievement (competent) was measured when student score 18 and above in theory Exam and declared satisfactory in skill examination.

SUBSTANCE USE: is any current experience of using psychomotor active substances such as chat, cigarette , Hashish, for study purpose after joining college.

COLLEGE STUDENTS: Students who are Diploma trainee or level based trainees for three consecutive academic years on nursing, midwifery and Health Extension students.

LOW ACADEMIC ACHIEVEMENT: is indicated by failing to score half for totally asked questions and not well demonstrating skill based activity. Skill exam was assessed by using standardized checklists prepared on respective professions.

GOOD ACADEMIC ACHIEVEMENT: scoring pass mark (18 and above) and declared competent for basic skills (checklist based assessment).

READING IN LIBRARY: students reading behavior using college library and explained by their own word whether or not they visited library for reading purpose.

CLASS ATTENDANCE: Students daily follow up of learning in class and confirmed by respective instructors.

RESULTS

SOCIO DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENTS

Out of 265 study participants, 250 students were completed interview giving response rate of 94.3%. Majority 227 (73.7%) of respondents were females. The mean age of the respondents was 19.25 (± 2.00) years. Nearly half 133(53.5%) were in the age group of 18-25 years. Almost half 121(48.6%) of respondents were from comprehensive nursing department.

About 221 (84.7%) were single and 91 (36.5%) of respondents were orthodox religion followers.

MAGNITUDE OF STUDENTS ACADEMIC ACHIEVEMENT AMONG MIZAN AMAN COLLAGE OF HEALTH SCIENCE STUDENTS IN 2018.

The respondents who succeed or who respond as yes on competency examinations were 133(53.2%) in 95 % CI (47.7, 59.9) respectively (see figure 1).

FIGURE 1: STUDENTS ACADEMIC ACHIEVEMENT AMONG MIZAN AMAN COLLAGE OF HEALTH SCIENCE STUDENTS 2018.

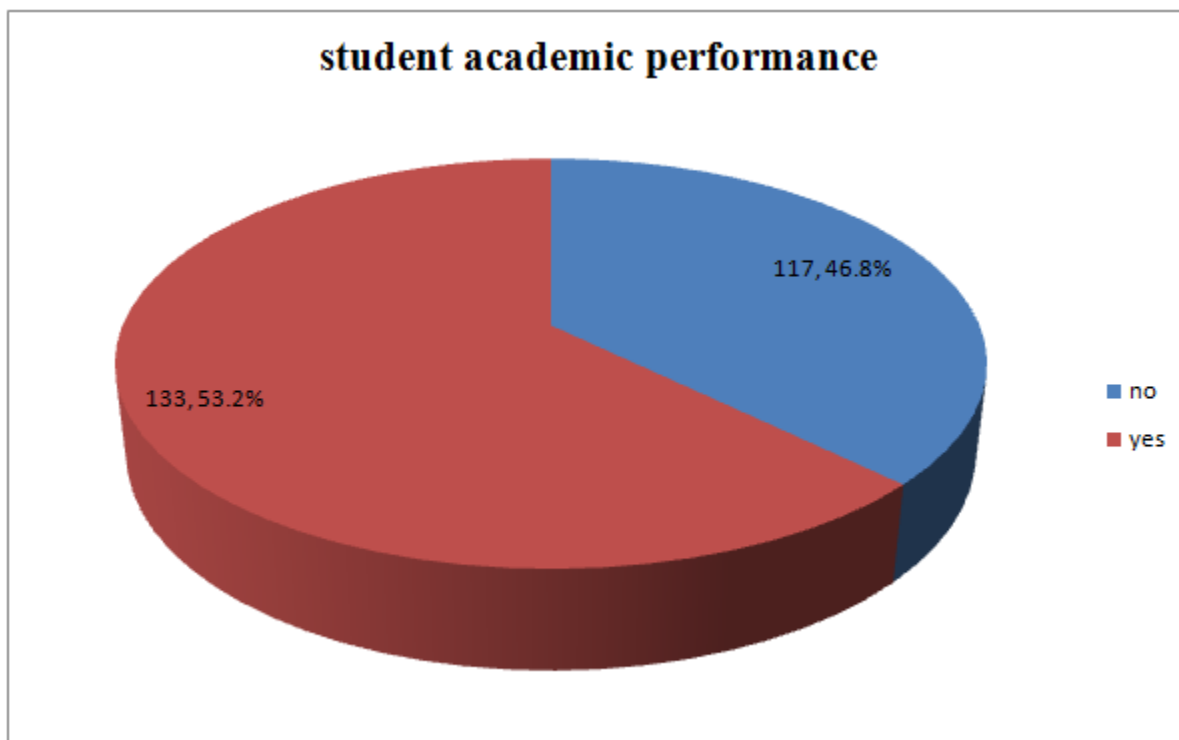


TABLE 1: BIVARIATE AND MULTIVARIATE LOGISTIC REGRESSION ANALYSIS OF FACTORS ASSOCIATED WITH ACADEMIC ACHIEVEMENT STUDENTS IN MIZAN AMAN COLLEGE OF HEALTH SCIENCE STUDENTS, SOUTHWEST ETHIOPIA, 2018 (N=250)

	Students academic achievement					
	Yes		No		COR(95% CI)	AOR(95% CI)
	n	%	n	%		
Use of library	48	31.2%	106	68.8%	2.02(0.89-4.66)	3.13(1.5-6.49)*
	69	71.9	27	28.4%	1	1
understanding of teaching language	25	11.5%	22	24.4%	2.50(1.32 -4.71)	2.8(0.96-3.75)
	140	88.5%	68	75.6%	1	1
Habit of Substance use	46	38.7%	73	61.3%	1	1
	70	53.8%	60	46.2%	2.70(1.60-4.58)	2.20(1.24-3.90)*
Instructors initiation to taught	12	5.5%	13	14.4%	2.89(1.26-6.62)	2.4(0.54-3.25)
	206	94.5%	77	85.6%	1	
Students class Attendance regularly	21	9.6%	31	21.1%	2.51(1.27-4.94)	2.29(1.04 -5.04)*
	127	90.4%	71	78.9%	1	1
Instructors assessment methods	23	10.6%	20	22.2%	2.42(1.25-4.68)	2.21(0.65-3.20)
	195	89.4%	70	77.8%	1	

* Statistically significant

INDEPENDENT PREDICTORS OF ACADEMIC ACHIEVEMENT

Explanatory Variables with p-value less than 0.25 in the bivariate logistic regression was entered into the final multivariate logistic regression. So, habit of using a library (AOR=3.13, 95% CI: 2.02, 9.27), students regular class attendance (AOR=2.20, 95% CI: 1.28-3.80) and having no habit of substance use (AOR=4.14 95% CI 1.65, 22.79) were found to be statistically significantly associated with academic achievement of students.

DISCUSSION

From 250 sampled students 133(53.3%) were identified competent in the study. This study result indicates low achievement despite the organization (college) planned to achieve 95% of pass rate in academic year. From all admitted students in academic years, it is expected that only 5% of students would fail on competency exam and which is tolerable but almost half were non-competent (47.3%). Many studies were carried out in other study setting to identify factors affecting college student's academic achievement (3, 5, 6, 8, 11). Our study as being new for specific study area also tried to identify if there is any association of student academic achievement and competency examinations. Student's academic achievement affecting factors such as attendance in classes, time allocation for studies, parents' level of income, and family's educational level were identified. The research is based on students profile developed on the bases of information and data collected from students.

The decreased awareness to use of library, a habit of substance use was a general truth which affects the

academic achievement of students. A systematic review carried out to see students academic achievement was concluded that student performance depends on different socio-economic factors, psychological and environmental factors(24-25) . Another study finding identified that factors such as learning abilities because of new paradigm about learning assumes that all students can and should learn at higher levels but it should not be considered as constraint because there are other factors like race, gender, sex that can affect student's performance(6).

A cross sectional study conducted in Pakistan and Saudi Arabia to assess nursing students academic achievement and associated factors was identified that gender of students was a significant factor of academic achievement; but our study showed no difference regarding gender of students and academic achievement (7, 10). Similarly, study conducted on academic achievement on psychology course in Malaysia identified that previous academic record, estimate of the mark and satisfaction were identified as determinants of students academic achievement(8). We also believe that students academic background can significantly affect recent academic achievement. Study finding showed that senior nursing student (3rd year) spent more time on study when compared with their juniors. This had again positive impact on their academic achievement, which is in consistent with our study finding; students who spent more time on library had higher academic achievement when compared with their counterfits (9, 11-12, 15, 17).

A study results imply that teachers play a great role in the academic life of the students. It further implies that the

student respondents had a high regard on their teachers' craft in teaching, their mastery of lessons as well as their rapport with their students. Off course, teachers are all over regarding students academic achievement, their direction, advice and encouragement can highly influence students academic achievement (10, 18-19). Our study finding was also supported by a study conducted in Bangladesh which identified that student active class attendance was identified as factor for academic achievement (13, 20-22). We believe that class attending student has strong potential to score higher grade than those who are frequently missing class. So, instructors or teachers are expected to follow their students in each and every day activities based on taking class attendance consistently. A study conducted in Ethiopian study in Rift Valley University (Private university in Ethiopia) to examine what factors were affecting students academic achievement regardless of department background concluded that both students and teachers or instructors positive opinions strongly associated with students academic achievement(14, 23). Encouraging students to invest on reading individually as well as carry out group work which was initiated from instructors can positively influence students academic achievement while students acceptance to what instructors said to work carefully is also playing great role for academic achievement.

The discussion above suggests that academic achievement of students is influenced by a combination of factors which includes use of library, class attendance and habit of substance use. Moreover; substance use is identified as reducing students academic achievement when compared with those who never used it in last 12 months (16).

CONCLUSION

Our study tried to show what factors are affecting student's academic achievement. Since Ethiopia is one of the developing countries, it requires educated individuals who are not only educated but also qualified on their academic achievement, we believe that students should be supported from different direction such as families, schools or college communities, officials all should work in order to protect students from thing that may hinder them from attending classes. This cross sectional study has identified factors such as using library regularly, attending class consistently and using substance as influencing factors for academic achievement. Because of when students newly join to colleges and higher institutions, there are many issues that may force them to behave newly or unusually. So, we conclude based on the study fining habits such as using substances, not attending class as well as not reading in library should be discouraged.

LIMITATIONS OF THE STUDY

LIST OF ABBREVIATION

CCN: Comprehensive Clinical Nursing

CGPA: Cumulative Grade Point Average

EDC: Education Development Center

1. This study doesn't measure the continuous academic achievement of the student since it measures one point of time performance of student.
2. We applied cross sectionals study design which cannot show cause effect relationship of outcome and independent variables.
3. Authors believe that all factors that can affect students academic performance were not addressed from worldwide literatures.
4. Recall bias can be seen in the study.

RECOMMENDATIONS

FOR SCHOOLS, COLLEGES AND UNIVERSITIES

Since students academic achievement is the front issue in all the above mentioned institutions, we recommend that student are expected to read regularly in libraries.

FOR STUDENTS

It has been scientifically proved that those students regularly reading in library scored high level of academic achievement; therefore, particularly for those reading hours on per day; students are encouraged to invest reading times in library.

Based on our study finding and other studies finding; using substance has negative effect on academic achievement; therefore; we strongly recommend that read not by using any substances.

Therefore, due attention should be given for college students to attend class regularly, to improve a habit of using a library. It is also important to create awareness on a habit of using substance since it hinders academic achievement.

Class attendance is such a powerful means to have remarkable academic achievement.

FOR INSTRUCTORS OR TEACHERS

Studies have been identified there is always supportive and concerned teachers or instructors upon students academic achievement. So, we strongly recommend that instructors should take students class attendance regularly and make sure that whether students are reading regularly or not by using close follow up or assessment tools.

FOR COMMUNITY

Student's academic achievement issue is not only rendered to schools or colleges but it requires participations from community level. Misbehave of students such as using substance should be also discouraged at community level.

FOR RESEARCHERS

Further studies should be carried out by using different study designs.

MLT: MEDICAL LABORATORY TECHNICIANS

MW: Midwifery

SES: Socioeconomic Status

EGSECE: Ethiopian General Secondary Education Certificate Examination

HIT: Health Information technicians

MACOHS: Mizan Aman College of Health Science

SNNPR: Southern Nations, Nationalities and Peoples Region

SPSS: Statistical Package for Social Science

TLCP: Teaching Learning Core Process

DECLARATIONS:

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Ethical approval letter was obtained from Mizan Aman College of Health Science research review committee. The benefit and fully right to take part in the study as well right to withdraw during interview was clearly stated. Confidentiality was maintained by using anonymous questionnaire and privacy was assured during interview.

Data collectors asked Amharic version of questionnaires after obtaining written informed consent from each participant.

CONSENT TO PUBLISH

The Consent to publish not applicable because there no audios and videos in data part. **Availability of data and materials**

The data supporting the finding will be attached to editorial office if necessarily since it is avail in the corresponding author hand.

COMPETING INTERESTS

Authors declare that there is no competing interest.

FUNDING

No funding is required.

AUTHOR'S CONTRIBUTION

TT: contributed for this study by originating the study concept, formulating study designing, controlling data quality and analyzing data, reporting finding and manuscript preparation, **BB:** originating the study concept, formulating study designing, controlling data quality and analyzing data, reporting finding and manuscript prevision, **WA1:** formulating study designing, controlling data quality and analyzing data, reporting finding and manuscript revision, **DS:** ,formulating study designing, controlling data quality and analyzing data, reporting finding and manuscript revision, **WA2** : formulating study designing, controlling data quality and analyzing data, reporting finding and manuscript revision.

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