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Academic dishonesty among Nigeria pharmacy students: A comparison with United Kingdom

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Professionalism and integrity are integral attributes of the pharmacy profession. This study was set out to determine the perceptions towards and actual indulgence in academic dishonesty among Nigerian Pharmacy students and to compare these with results obtained in the United Kingdom. Final year and third year pharmacy students of University of Nigeria (UNN) and Olabisi Onabanjo University (OOU), all in Nigeria, were asked to complete a survey instrument consisting of 16 activities considered to be cheating. Data on perceptions and previous indulgence in such activities were collected and analysed with appropriate statistical tools. Three hundred and sixty six students participated (overall participation rate, 72.8%; UNN: n=216, 59.0%; OOU: n=150, 41%) in the study while male and female students were distributed almost equally (male: 48.6% and female: 51.4%). More students cheated in their coursework than in examination (54.2 vs. 45.8%, $p<0.05$), while significantly more final year students in OOU indulged in cheating (74.6 vs. 62.1%, $p<0.05$). Overall, significantly more students in UNN cheated than those in OOU (81.5 vs. 68%, $p=0.002$). In comparison with students of University of Portsmouth, proportionally more Nigerian students participated in all eleven selected scenarios than UK students. Nigerian pharmacy students generally have a poor perception towards academic dishonesty and acts of such dishonesty are prevalent among these students.

Key words: Academic dishonesty, Nigeria, pharmacy practice, professionalism.

INTRODUCTION

Pharmacy as a profession prides itself on high ethical standards and integrity. These qualities endear this profession to patients and other healthcare providers enabling trust to be built upon and subsequently mutual benefits achieved by both parties. Integrity does matter in both learning and practice. If there lacks integrity in the learning (education) process, integrity during practice may suffer adversely and studies have either perceived or demonstrated this association (Taradi et al., 2009; Turrens et al., 2001).

Academic dishonesty (also known as cheating) has been defined by Storch and Storch (2002), to be "the act of giving or receiving unauthorized assistance in an

academic task or receiving credit for plagiarized work". There is evidence that academic dishonesty is on the rise among pharmacy students in developed economies across Europe and North America (Harries and Rutter, 2005; Austin et al., 2005). Findings from such studies have shown that as much as 50-90% of students in some schools of pharmacy have said to have cheated in at least an examination or class work exercise. Some factors have been pointed to promote cheating among students, some of which may be applicable to a setting as ours (Africa). One of such factors is the size of class and number of tutors. Large classes with proportionally fewer tutors, often the case in developing countries, has

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been shown to be favourable to student cheating as students believe they are less likely to be caught in such "disorganised" setting (McCabe and Trevino, 1996). Another study highlighted students' poor awareness of the contents institutional policies on plagiarism and cheating and their effect on continued cheating behaviours (Ryan et al, 2009). The gender of the student has also been reported to play a role in involvement in academic dishonesty, though most of such studies have been largely conflicting. However two interesting studies have significantly identified the male gender as culprit in most incidences of academic dishonesty (Norton et al., 2002; Aggarwal et al., 2002). A study conducted in the US however showed a declining prevalence in cheating as students progressed through the curriculum/professional classes (Hardigan and Ranelli, 2006). Some schools of pharmacy have employed strategies to curb the high prevalence of academic dishonesty among its students, particularly with the use of examination proctors and anti-plagiarism software but these are not within the reach of schools in developing countries (Paiscik and Brazeau, 2010). Even if they eventually became available, their implementation and effective management could be yet another hurdle to climb.

To our knowledge there is no published evidence on the prevalence of cheating among students in any Nigeria school of pharmacy. This study was then conducted to fulfil the following objectives; 1) to evaluate the perceptions of pharmacy students towards academic dishonesty 2) to identify the level of indulgence in cheating among these students 3) to compare these perceptions and indulgence between pharmacy students in Nigeria and those of the United Kingdom.

MATERIALS AND METHODS

Study design

This study is a cross-sectional and descriptive survey designed to assess the perceptions and self-reported prevalence of cheating behaviours among Nigerian pharmacy students and compare them with those of a school of pharmacy in the United Kingdom. The survey in Nigeria included two schools of pharmacy conveniently sampled so as to compare institutional differences. Two professional classes were also used to note if academic progression had any effect on cheating behaviours.

Study site

The study was conducted in two accredited schools of pharmacy in Nigeria, one located at the Southern region and the other at the Eastern region. As at the time of this study, there were eleven council-accredited schools of pharmacy scattered all over Nigeria. The first used in this study; University of Nigeria Nsukka (UNN), is Nigeria's first indigenous university and its school of pharmacy graduates an average of 170 students annually. It is located in the ancient city of Enugu in South eastern Nigeria and it attracts nearly 4,000 applicants for its pharmacy program while accepting only an average of 200 candidates every year. The school of pharmacy in UNN utilizes the "resit-repeat" curriculum where unsuccessful students after a professional examination may have to re-take an

examination or repeat a class. The second university, Olabisi Onabanjo University, Shagamu (OOU), is located in Ogun State. It is a newer school of pharmacy receiving both the Council and Universities' Commission accreditation in 1994. It receives just over 600 applications yearly and it graduates an average of 90 students per year.

Study sample

Third and final year students of both schools of pharmacy formed the population for this study. The third year class represents a class that had successfully completed the first professional examination in the pharmacy curriculum while the final year class had been through three professional examinations. It is possible that differences may lie in the perceptions of these students towards cheating and academic progression may play a role. A non-probabilistic sampling method was used to select student participants such that the inclusion criteria used was being a bona fide member of the class and being present during the lecture at the time of the study.

Study instrument

A questionnaire in English language to be individually filled was used for this study. It consisted of 16 items (scenarios) that were statements considered to be dishonest. Eleven (11) statements were drawn from a previous study (Harries and Rutter, 2005), carried out in the University of Portsmouth, United Kingdom and others derived from graduates and lecturers of both schools of pharmacy under study in Nigeria. The statements covered common activities students participate in during examinations and tests (7 statements) and course and laboratory works (9 statements). The instrument sought to explore students' opinions on cheating behaviours and if they had indulged in any of such behaviours in the past. Demographic data such as age in years, gender and current year of study were also included in the study instrument.

Study procedure

After an approval of the study by the Faculty administration office of both schools, students were approached during a mandatory lecture, mid semester. A briefing was conducted and students were encouraged to provide genuine responses to all statements, as confidentiality and anonymity were promised by the researchers. To further build student trust, ballot boxes and similar marker pens were provided for all participating students. Oral consent for participation was sought from each student and no punishment for non-participation was promised. The questionnaires were distributed under the supervision of a lecturer to pharmacy students present during the third year and final year lectures. The classes were large enough and spacing was encouraged to reduce communication and bias when filling the questionnaire. A maximum allocated time of 20 minutes was given for completion of the questionnaire. The questionnaires were collected after completion. No honorarium was promised or given.

Outcome measures and statistical analysis

Data collected from the questionnaire were entered into the Microsoft Excel 2007 spread sheet independently by two personnel so as to ensure accuracy of entry. Entered data were transferred into the SPSS 16.0 package (SPSS Inc, Version 16, Chicago, USA) and subjected to differential analysis. Demographics of students from the two schools were presented as mean and percentages. Students' perception of dishonest scenarios was assessed using

percentages of students who correctly/incorrectly identified the dishonest behaviours. Prevalence of cheating was assessed by percentages of students who had reported in self-indulgence in cheating in the past year. These were presented by school of pharmacy and year of study. Effect of demographic variables (age, gender and year of study) on perceptions and prevalence were assessed by cross tabulation and differences were analysed using χ^2 -test at P values less than 0.05 being considered significant. Differences in perceptions and prevalence of cheating behaviours between the two Nigerian schools and a school in the UK³ were assessed using percentages in statements similar to both studies' instrument.

RESULTS

Respondents' characteristics and response rate

Three hundred and sixty six students participated in this study (overall participation rate of 72.8%). University of Nigeria accounted for 216 (59.0%) students and Olabisi Onabanjo University, 150 (41.0%) students. These represent an institutional participation rate of 66.4% (216/325) for UNN and 84.3% (150/178) for OOU. A majority of the students were females, 188 (51.4%) and with an overall mean age of 21 years for third years and 24 years for final years in both schools.

Students' opinion of cheating behaviour to cheating in examinations and coursework

Results on students' opinion of cheating behaviours in examinations and coursework are displayed in Tables 1 and 2, respectively. Overall, more than one-tenth of the students (12.8%) from both schools thought that the statements on examinations did not constitute cheating. A majority (>90%) of students of both universities thought that five of the seven statements were cheating behaviours for written examination. While nearly a quarter (23.6%) of students said that "seeing a leaked paper before an exam and solving it for use during the exam" was not cheating, also almost of half of them (42.37%) thought that "writing in an examination after the allotted time was over" was not cheating either. Differences in year of study showed that in OOU, more final year students considered all but one scenario ("writing an exam after the allotted time was over") were cheating than those in the third years. In contrast however to UNN, proportionally more third years students considered nearly all scenarios to be cheating.

Overall, nearly a third (29.3%) of students from both schools thought that the statements on course and laboratory work did not constitute cheating. Specifically, more than 30% of students of both universities thought that five of the nine scenarios were not cheating. Most notably, nearly half (48.2%) of the students said "passing down one's practical workbook for lower years to use" and "one using an old practical workbook to complete a practical work" were not cheating. Differences in year of

study showed that more final year students considered five of the nine scenarios as cheating behaviours than third year students in OOU. In contrast however, fewer students in final years in UNN considered all the coursework scenarios as cheating than third year students.

Student's self admittance to cheating in examinations and coursework

Students in these schools admitted to indulge in all scenarios presented in their last professional examinations. However, the prevalence of cheating indulgence was significantly higher (54.2% vs. 45.8%, $p < 0.05$) with coursework than in examinations. Adjusting for year of study for each school of pharmacy, more final year students in OOU admitted to cheating than the third year students (74.6% vs. 62.1%, $p < 0.05$). In contrast, a non-significantly lesser number of final year students of UNN were involved in these cheating behaviours than their third year counterparts (79.3% vs. 84.0%, $p > 0.05$) (Table 3). From a school of pharmacy point of view, there was a significantly higher number of students in UNN reported to have indulged in at least one of the cheating scenarios than in OOU (81.5% vs. 68.0%, $p = 0.002$). Also there was no significant difference between males and females students who indulged in academic dishonesty irrespective of the school of pharmacy (49.1% vs. 50.9%, $n = 277$; $p = 0.471$).

Differences of perceptions and prevalence of academic dishonesty among pharmacy students in Nigeria and United Kingdom

Results comparing perceptions and self-reported indulgence of academic dishonesty between students of two schools of pharmacy in Nigeria and a school of pharmacy in United Kingdom are displayed in Tables 4 and 5. More students in the Nigerian schools of pharmacy thought that four of the eleven selected scenarios were cheating than their UK counterparts. These included the scenarios "a student continues to write in an exam after the allocated time", "a student gets no results during the practical, then he makes it up (forges it)", "a student uses an old practical workbook to complete his practical report" and "a student passes down his practical workbook to lower groups for them to use to complete their practical reporting". Interestingly, only about half (47.7% to 57.7%) of the students in both countries thought that writing in an exam even after the allotted time and using an old workbook to complete one's assignments should be considered cheating. For admitted indulgence in cheating (Table 5), proportionally more Nigerian students participated in academic dishonesty in all eleven selected case scenarios than UK students.

Passing down practical notes (16.6%) or using practical

Table 1. What Constitutes cheating: Opinion of students in examination scenario (No = believes the scenario does not constitute cheating).

Examination scenario		Olabisi Onabanjo University				University of Nigeria				Total		NP
		Year 3		Year 5		Year 3		Year 5		%	n	
		%	n	%	n	%	n	%	n			
A student uses information written on the arm during a written examination	No	12.6	11	3.2*	2	4.0	4	5.3	6	6.3	23	22
A student takes a revision note ("chips") into a written exam	No	8.0	7	0*	0	2.0	2	5.2	6	6.2	23	12
A student uses electronic storage device (e.g. programmable calculator, phone, blackberry to store data and use it in an exam	No	7.0	6	0*	0	4.0	4	7.8	9	7.0	26	14
Students exchange answers by (signals or orally) during an exam	No	12.8	11	1.7*	1	7.0	7	12.1	14	10.0	33	115
A student sees a "leaked" paper before an exam, solves it and uses the information during the exam	No	33.7	29	26.7	16	20.0	20	17.5	20	23.6	85	38
A student continues to write in an exam after the allotted time was over	No	33.8	33	45.2	28	43.0	43	43	49	42.3	153	116
A student allows another student to copy his paper in an exam	No	16.3	14	3.4*	2	7.0	7	9.5	11	9.4	34	126

*Indicates p < 0.05 (3rd versus 5th year); NP = no of students who had indulged in the act.

Table 2. What Constitutes cheating? Opinion of students in course/laboratory work scenario (No= believes the scenario does not constitute cheating).

Course and laboratory work scenario		Olabisi Onabanjo University				University of Nigeria Nsukka				Total		NP
		Year 3		Year 5		Year 3		Year 5		%	n	
		%	n	%	n	%	n	%	n			
Instead of doing his practical work, a student copies from a group member	No	37.6	32	28.3	17	32	32	33	38	33.1	119	155
A student allows another student to copy his/her assignment	No	39.3	33	42.9	22	34	34	37.9	44	37.6	133	199
A student copies a colleague's practical note without their consent	No	20	17	8.1*	5	13	13	18.1	21	15.4	56	57
A student gets no results during the practical, then he makes it up (forges it)	No	26.7	23	20.6	13	24	24	25.2	29	24.5	89	97
A student uses an old practical workbook to complete his practical report	No	42.4	36	42.6	26	44	44	45.7	53	43.9	159	151
A student passes down his practical workbook to lower groups for them to use to complete their practical reporting	No	50.6	41	54.2	32	41.4	41	49.1	56	48.2	170	102
A student does not participate in practical group work, leaving it only for other members	No	41	34	36.1	22	26	26	29.3	34	32.2	116	70
A student gets his colleague to write his assignments for him/her	No	31	26	35.1	20	24	24	26.7	31	28.3	101	86
A student uses electronic devices to get answers from the internet during an exam or class	No	10.5	9	3.2	2	4*	4	12.9	15	8.2	30	15

*Indicates p<0.05 (3rd versus 5th year). NP = no of students who had indulged in the act.

Table 3. Reported rates of dishonesty by students of two Nigerian schools of Pharmacy.

Number of students admitting to undertaking academic dishonesty*	Number of instances students indulged in academic dishonesty		
	Written Examinations	Coursework	Total
OOU 3 rd year (n=54/87, 62.1%)	68	155	223
OOU 5 th year (n=47/63, 74.6%)	57	151	208
UNN 3 RD year (n=84/100, 84%)	185	314	499
UNN 5 th year (n=92/116, 79.3%)	133	312	445
All years of both schools (n=277/366, 75.7%)	443	932	1375

* At least one scenario described as academic dishonesty.

notes to complete one's practical assignment (17.1%) were most prevalent cheating behaviours seen among UK pharmacy students while copying a practical work from a group member (42.3%) and using old practical workbook to complete assignments (41.2%) were most prevalent cheating behaviours among Nigerian students. Overall, the cheating was higher in coursework than in examination for students in both countries.

DISCUSSION

This study explored the perceptions and actual indulgence in academic dishonesty ("cheating") among pharmacy students in two schools of pharmacy in Nigeria. Its results show that the perceptions towards cheating was poor and prevalence of cheating was high, much higher than reported in other schools in the US (Aggarwal et al., 2002). In examination scenarios, poor perceptions of what constitutes cheating in an examination was seen especially in two statements which were "a student continues to write in an exam after the allotted time was over" and "a student sees a leaked paper before an exam, solves it and uses the information during an exam". Interestingly the latter scenario can warrant a student's withdrawal from the pharmacy program in both Nigerian universities, but the students felt it was one's "luck" if such an event were presented to them. More encouragingly, only a few of them accepted to have indulged in such an act. The prevalence of indulgence in cheating was high in three examination scenarios with about half of the students reporting indulgence. Allowing a fellow student copy one's work, writing after allotted time was over and exchanging answers by signals during examinations accounted for the most prevalent acts of cheating amongst these students. Quite worryingly, majority of the students perceived these acts as cheating and still went ahead to indulge in them. Large number of students taking examinations in medium (or small) sized classrooms is common in most schools of the country. Such scenarios encourage cheating among students as they feel (or know) they are not likely to be caught if they cheated. This may cast some doubts on their academic

competencies and professionalism status as they graduate, as some authors have reported that students who cheat in school would most likely be involved in unprofessional acts during practice (Turrens et al., 2001). There were also poor perceptions in course (classroom) work cheating scenarios among students in nearly all the scenarios presented. Copying another's work and assignments, forging laboratory results and using previous workbook to complete assignments were seen to be cheating by more than half the students assessed. These acts of dishonesty were also found to be correspondingly prevalent among these students with majority of them admitting to have indulged in them. There was high indulgence in nearly all the scenarios especially in cases of copying assignments, but there was evidently low use of electronic devices to cheat. The authors believe that this high prevalence in academic dishonesty in class work may be due to very weak or non-existent penalties from the schools' administration, as most schools do not punish students for classroom work cheating.

Prevalence of cheating in our study showed nearly equal proportion of third and fifth year pharmacy students being involved in at least one form of cheating. This contradicts the report of Ng et al. (2006), which reported higher class students being more involved in forms of academic honesty. Hardigan and Ranelli (2006) however had a mixed report, stating that the students from the higher class (third year vs. first year) cheated more before actual examinations with first years more likely to cheat during examinations. The higher prevalence of cheating among third year students of UNN could possibly be attributed to the high attrition rate in that class, and students become desperate to get to the next class. However, for a smaller school like OOU in which attrition rate is similar across all years, more final year students said they were involved in cheating. This may be as a result of spending more years in school or were possibly more aware of opportunities to cheat (Ng et al., 2006).

Students in the larger school (UNN) were significantly more involved in cheating behaviours than the students in the smaller institution (OOU). This trend is supported by

Table 4. Comparison of the perception* toward cheating between students of schools of pharmacy in Nigeria and United Kingdom.

Scenario	Olabisi Onabanjo University/University of Nigeria, Nigeria n=366		University of Portsmouth, United Kingdom n=409	
	N	%	N	%
Examination				
A student uses information written on the arm during a written examination	341	93.7	403	99
A student takes a small piece of revision note (“chips”) into a written exam	351	93.8	402	98.7
A student uses electronic storage device (e.g. programmable calculator, phone, blackberry to store data and use it in an exam	346	93	403	99
Students exchange answers by signals or orally during an exam	328	90	386	95
A student sees a paper before the exam, solves it and uses it in an examination	275	76.4	383	94.3
A student continues to write in an exam after the allocated time	209	57.7	192	47.3
Course work				
Instead of doing his practical work, a student copies from a group member	241	66.9	375	92.4
A student copies a colleague’s practical note without their consent	307	84.5	393	96.8
A student gets no results during the practical, then he makes it up (forges it)	275	75.5	192	48.9
A student uses an old practical workbook to complete his practical report	203	56.1	193	47.7
A student passes down his practical workbook to lower groups for them to use to complete their practical reporting	183	51.8	170	42.2

*Responses that believe the scenario does constitutes cheating.

the works of Thorpe et al. (1999). This difference in cheating prevalence between the schools may also be attributed to a lesser inclination by OOU students to cheat or report they cheated or may have fewer opportunities to cheat than those in UNN. Larger classes and fewer tutors/examiners (typical of some schools in Nigeria) as mentioned above may provide ready atmosphere for students to cheat. Our study found no association of gender of pharmacy students and actual indulgence in academic dishonesty which is similar to results published earlier (Rabi et al., 2006) but contrary to another study assessing a school with predominantly African-Americans (Saulsbury et al., 2011).

Students from schools of pharmacy in UK and Nigeria had poor perceptions of cheating behaviours and both indulged in different examination and coursework malpractice. Quite a large number of students of both schools thought that using previous workbooks to complete one’s assignment or passing down workbooks to lower classes for use and continued writing in an exam after allotted time was not cheating. Using previous workbooks to complete one’s assignment or passing down workbooks to lower classes for use were the most common cheating behaviours both sets of students indulged in. Other cheating behaviours that were common among both students included “forging laboratory results” and

“writing an examination after the allotted time was over”. However, proportionally, more Nigerian students indulged in cheating and their knowledge of what constitutes cheating was poorer than their UK counterparts overall. This may be suggestive of the effect of cultural and regional differences as suggested by Ng et al. (2006). Prevalence of cheating is expected to be lower in UK schools and schools of highly developed economies due to the availability and utilization of cheating technological devices which are evidently non-existent in schools of most developing nations. A major concern we express in this study is the growing use of electronic storage devices to store answers and use during examinations. Though

Table 5. A comparison of the *levels of admitted indulgence in academic dishonesty* between students of the schools of pharmacy in Nigeria and United Kingdom.

Scenario	Olabisi Onabanjo University/University of Nigeria, Nigeria n=366		University of Portsmouth, United Kingdom n=409	
	N	%	N	%
Examination				
A student uses information written on the arm during a written examination	22	6.0	13	3.2
A student takes a revision note into a written exam	12	3.3	3	0.1
A student uses electronic storage device (e.g. programmable calculator, phone, blackberry to store data and use it in an exam	14	3.8	9	2.2
Students exchange answers during an exam	115	31.4	32	7.8
A student sees a leaked paper, solves it and uses it in an examination	38	10.4	3	0.1
A student continues to write in an exam after the allotted time was over	116	31.7	45	11.0
Course work				
Instead of doing his practical work, a student copies from a group member	155	42.3	19	4.6
A student copies a colleague's practical note without their consent	57	15.6	7	1.7
A student gets no results during the practical, then he makes it up (forges it)	97	26.5	67	16.4
A student uses an old practical workbook to complete his practical report	151	41.2	70	17.1
A student passes down his practical workbook to lower groups for them to use to complete their practical reporting	102	27.9	68	16.6

the levels reported in this study was relatively low but they were higher than those reported in schools of pharmacy in more technologically advanced countries like the UK (Harries and Rutter, 2005). Students should be encouraged to embrace new technologies and employ them in purposeful ventures such as literature search, research and academic discussions. An author recounted that some schools have devised strategies such as honour codes and academic integrity committees to enforce such codes, use of examination proctors and anti-plagiarism softwares to reduce academic dishonesty and plagiarism. However these efforts, no matter how stressed, would be useless if students themselves

cannot instil good ethics and honesty in their individual and collective characters. As at the time of this study, schools of pharmacy in Nigeria do not assess its students using performance-based and problem-solving examinations but rather focus hugely on multiple choice and theory-based tests, which shifts focus of learning to a mere jostle for higher grades (Piascik and Brazeau, 2010).

This study had some limitations. Firstly, the sample though representative of a typically small and large pharmacy school in Nigeria, may not typify the perceptions and actions of students in other schools of pharmacy. Secondly, this study assesses perceptions towards a concept our

respondents know is unprofessional, and this may have caused some respondents to report falsely (agreeably) which may have affected validity of these results obtained. Lastly, this study did not set out to understand reasons why students cheat and thus these results should be treated as descriptive and not inferential.

Conclusion

Pharmacy students in the Nigerian schools surveyed have poor perceptions about academic dishonesty and have indulged in it. Educational interventions should be enforced to reduce this

worsening trend so as to preserve the professionalism this profession prides itself on.

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