Plagiarism is an ambient tool for Current Globalisation in Indian Higher Educational Institutions- A case study

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Abstract : The plagiarism is a scourge that needs to be eradicated globally. Nationwide higher education institutions have incepted anti-plagiarism policy in place to prevent the theft of someone else's ideas or works. According to a cloud force analysis (67%) of global thieves have engaged in direct or indirect plagiarism through stitching sources, bluffing, patchwork or whitener, paraphrasing and self plagiarism as a result of these unauthorised falsification lead to different causes like academic dishonesty, family issues, a heavy workload and lack of training *etc*. In the present situation, plagiarism has devastating long-term ramifications that call for global scientific attention. The current study makes an effort to fill this knowledge vacuum by examining how faculty members and researchers perceive to use plagiarism. At a few HEIs in India, a deep survey was carried out, the data was collected using a Likert scale (0–5) and pretested questionnaires. Hypothesis was tested using receiver operating characteristic analysis and artificial neural network models (ANNs). According to the findings, plagiarism was widely employed by assistant professors and young researchers (AUC = 0.881). Majority of faculty members and researchers swedge for using softwares (AUC = 0.69) they had poor technical writing skills (AUC =0.83). Another hindrance to plagiarism is lower level of institutional monetary (AUC=0.88) supports. According to the study's conclusion, a national strategy should be strengthened with stringent guidelines for institutional mechanisms to adopt in order to combat the plagiarism epidemic. The study's results help us understand and develop the HEI educational policies.

Key words : ***Plagiarism, Higher Education Institutions, Softwares, ANNs, ROC***

Introduction

An act of appropriating someone else's ideas or work and presenting them as one's own. The dissemination of scientific information has resulted in the improper full appropriation of other works in terms of languages, concepts, scientific postulates, theorems and technological information among other things. This movement has highlighted substantial constraints and barriers of the plagiarism policy and academic dishonesty of the researchers, academicians and ghost-writers in order to demonstrate the unethical ethics with numerous expulsions. Prevention of unlawful process, the copy right act has been in effect since 1957 is responsible for overseeing the nationwide protection of our intellectual property rights (IPR). In 1958, this law was formally enacted. The imperial copyright act (ICA) was established by the UK parliament in 1911, served as the basis for the Indian copy right act, which was officially created in 1914 but somewhat changed to apply to Indian law. The duration of the copyright was set at fifty years under this statute, starting from the day it was formally gazetted. The copyright statute has a limited reach; neither written works nor intellectual property rights are covered by it. Due to these reasons, a significant number of researchers, academicians, research scholars and students have purposefully deviated the law due to time constraints, family issues, child care responsibilities, stress on the academic work force, ignorance of the law, a lack of sensitization training programmes, lack of technical skill for handling plagiarism software's, health issues, parental care of children, maternity leaves of women's and other coping factors. In this scenario, higher educational institutions (HEI) from around the world discussed this issue in order to take the necessary intervention to prevent or curb illicit actions. Regarding academic dishonesty have been expressed on a worldwide many countries has introduced newer policies under committee of publication ethics (COPE) guidelines. The Scholarly publishers (national and International) were adopted COPE publication ethics for prevention of plagiarism in research articles . Publishers will found any stealing materials , authorship will be terminated. With effect from 2017, the Indian educational system (UGC, AICTE,NMC,ICAR and ICMR) and all higher educational institutions (HEI) have implemented significant measures and imposed penalties under section 57 of the Indian Penal Code (IPC) in order to uphold academic integrity and international standards and combat the issue of illegal falsifications. Very few publications on plagiarism policy have been published in Indian contexts as of late. The main objective of this present study attempts to examine how plagiarism is perceived at different academic levels and also elucidate the hidden variables that encourage plagiarism at higher educational institutions.

Methods

The online survey was conducted using the random purposive sample method. In addition to various academic levels, questionnaires were distributed to Professors, Associate professors, Assistant professors and research scholars at selected universities that adhere to UGC Guidelines. A collection of questions explaining different levels of plagiarism and its characteristics is available for each of the major plagiarism issues. There were various questions were included with a (0-10) scale to examined survey. Comprehensive informations were collected using email, phone calls, and other social media. Questionnaires that had undergone testing were given to the respondents. The data were analysed using SPSS 16.0. Descriptive statistics, receiver operating characteristic analysis (ROC) and neural network modelling (radial basis) techniques were employed to test the hypothesis.

Sample size determination

The following formula was used to determine the sample size.

$n = \frac{Z^2 * p(1-p)}{1+\left(\frac{Z^2 * p(1-p)}{e^2 N}\right)}$; n $= \frac{1.96^2 * 0.60(1-0.60)}{1+\left(\frac{1.96^2 * 0.60(1-0.60)}{0.10^2 * 100000}\right)}$;n =918

The total respondents were 918 for this study. Likert scale (0-5) was used to gather the data sets; responses were recorded as not answered coded as (0), not serious (1), serious (2), somewhat serious (3) and highly serious (4). Pretested questionnaires were used to collect demographic data, including age, gender, number of publications with grounds of plagiarism and other things.

Results

The results were correlated and evaluated using appropriate statistical tools. Tables and graphs were used to methodically display the research's findings.

Table 1: Descriptive statistics of respondents response (n=690)

Faculty members and researchers	Distributed (n/N)	Received	% of response
Librarians	153	140	91.50
Professors	153	138	90.20
Associate Professors	153	125	81.70
Assistant Professors	153	139	90.85
PG Scholars	153	148	96.73
Ph.D and Post Doc Scholars	153	152	99.35
Total	918	690	91.72

A total of 918 questionnaires were sent out via email and other online mode ; the Librarian response rate was (91.50%), followed by that of Professors (90.20%), Associate professors (81.70%), Assistant professors (90.85%), PG students (96.73%) and research scholars (91.72%). The anonymous computerised survey data gathered from all respondents, (48.55%) for men and (51.44%) for women with a mean response rate of (91.72%). Married respondents made up (85%) of the sample during the poll, while single respondents made up (15%). The median age of the respondents was 45.63 while the standard deviation was 2.25 years (IQR 23-55years). Without a Ph.D. (26.85%) of those working in academic or research settings and (1.22%) of post-doctoral holders. The average number of years of research and teaching experience was 18.55 (n=542) with an SD of 0.98 years. The majority of students were expected to write theses in order to receive their degrees, (11.33%) of them were currently enrolled in graduate school. PG and Ph.D. Scholars reported an average age of 24.88 with a 1.26 year of standard deviation.

Table 2: Analyzing numerous variables of plagiarism

Parameters	Factors			
	F_1 (Strongly agree)	F_2 (Agree)	F_3 (Disagree)	F_4 (Strongly disagree)
When writing a research paper, essay, or books, I occasionally worry that I will use a template that has already been written	0.73	0.23	0.59	0.005
I am aware of what plagiarism is and have implemented policy	0.80	0.14	0.506	0.13
I can sense Stealing someone else's work is also considered plagiarism	-0.25	-0.28	-0.83	-0.31
Plagiarism is acceptable if academic and research workloads are excessive.	-0.17	-0.45	-0.19	-0.82
Plagiarism should be punished rigorously.	0.93	0.04	0.01	0.18
Research papers that have been downloaded and reused are unacceptable and will result in expulsion.	0.66	0.06	0.30	0.59
My ethical ideals are giants against plagiarism.	-0.05	0.96	0.10	0.11
Plagiarism is the taking of another person's words not their property; hence it is not a serious offence.	0.51	0.74	0.20	0.17
You are not allowed to copy yourself.	0.13	0.92	0.19	0.25

The association between the various components of plagiarism was described using confirmatory factor analysis. Based on the factor loadings, each characteristic was stated as a loading; if the factor loading is less than 0.50, the factor is thought to be reasonably linked with the selected attributes. Even though a loading range of 0.50 is thought to be favourable, it demonstrates a weak correlation and lack of predictive potential. Regardless of the absence, factor F_1 and F_3 have a substantial correlation with the dependent variables. The above findings indicate that faculty members and researchers have made past declarations about the absence of plagiarism, dishonesty and hands on training programmes. Because their research supervisors would not be strictly enforcing the rule that plagiarism is not permitted. However, scholars had to deal with a variety of instances of academic and research misconduct. About (65%) of faculty members and researchers choose predatory or trashed journals for their publications and also published articles were claimed for CAS promotions and other financial benefits.

Table 3: Correlation between plagiarism causes

Causes of plagiarism	Area under curve ± SE	Asymptotic 95% Confidence Interval	
		Lower Bound	Upper Bound
(i) Academic standing	0.532±0.01	.393	.672
Professor	0.417±0.08		
Associate Professor	0.653±0.01		
Asst Professor	0.744±0.00*		
Researchers	0.881±0.00*		
(ii) Complete services for academics and research	0.77±0.02	.298	.574
<5 years	0.87±0.06*		
6-10 years	0.72±0.00*		
10-15 years	0.66±0.01*		
15-20 years	0.44±0.02		
21-25 years	0.38±0.00		
> 25 years	0.24±0.03		
(iii)Age (years)	0.65±0.00	.247	.473
Younger age	0.86±0.00*		
Medium age	0.77±0.00*		
Higher age	0.32±0.01		
(iv) Number of Publications	0.417±0.03	.292	.541
<10	0.802±0.00*		
11-30	0.691±0.01*		
31-60	0.323±0.00		
>60	0.224±0.00		
(v)Gender	0.560±0.00	.430	.790
Males	0.616±0.00*		
Females	0.833±0.00**		
(vi)Other problems	0.843±0.00	.372	.825
Family issues	0.98±0.00**		
Workplace stress	0.84±0.00**		
lack of proficiency in technical writing	0.83±0.01**		
Difficult to handling software	0.74±0.02*		
Not provide Institutional financial supports	0.69±0.02*		
Adolescent care	0.88±0.00**		
Elderly people care	0.82±0.00**		

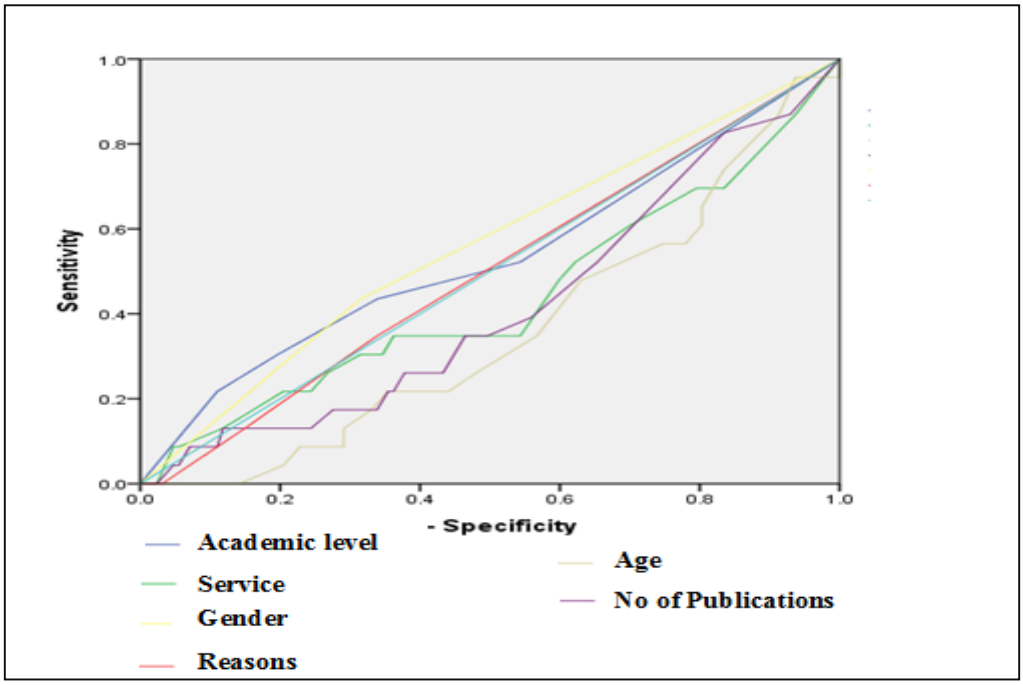

Fig 1. Correlation of reasons for plagiarism practice

The dependent variables were taken into account in the analysis of the relationship between plagiarism causes and other relevant factors, such as the length of services and the number of publications (Table 3).Each and every selected variable was censored. Gender codes for male respondents were "1" and for female respondents were "0." The ROC model was used to determine the area under the curve (AUC), specificity and sensitivity. The results showed that researchers and new assistant professors both considerably used plagiarism (AUC = 0.881 with SE 0.00 and AUC = 0.744 with SE= 0.00, respectively). Participants with six to ten years of experience showed a strong connection (AUC = 0.72, SE = 0.00), whereas participants with fewer than five years of experience showed a weak correlation (AUC = 0.66, SE = 0.01). At the 1% level of significance (p=0.06), it was determined that the younger age range of 25–35 years (AUC = 0.86) and the middle age range of 36–45 years (AUC = 0.77) were substantially connected. The majority of academics and researchers were found to be struggle for handling softwares (AUC=0.69) and also poor at technical writing skills (AUC=0.83). An Institutional funding (AUC=0.88) support is another barrier for plagiarism. It was found that faculty members' plagiarism habits (AUC = 0.802) were significantly correlated with their number of publications. The main Causes of plagiarism are listed in a graph (1)

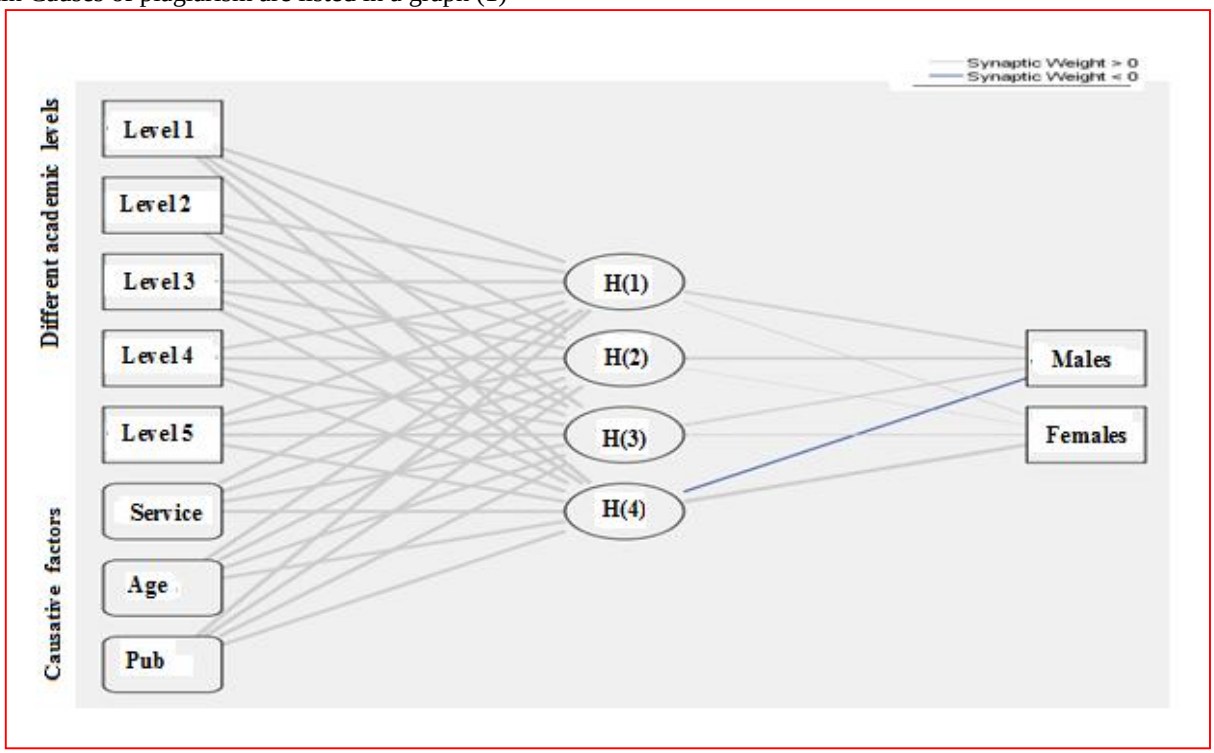

Fig 2. Artificial neural network (ANNs) models of causative factors of plagiarism.

According to (Figure 2), the training set for males was (75.70%) for females it was (78.70%) and for the entire predicted training set from the model it was (96.90%). The artificial neural radial basis network model that links different instances of plagiarism. Different academic levels like L_4 and L_5 were shown to be statistically significant ($p<0.05$)with a mean training set of (91.11%). The causative factors of age, service length, and number of publications were more pronounced in training sets with a mean rate of (94.08%).

Perception level of plagiarism for adaption of national policy in India

Survey responses had both positive and negative remarks about perception levels and scores were assigned, a "Z" score was then created for each score.

$Z = \frac{\text{Rawscore}-\text{Mean}}{\text{Standard deviation}} = \left(\frac{X-\mu}{\sigma}\right)$, Based on the mean and standard deviation of the plagiarism scores collected data sets were categorised (0-100) scale

Classification	Score code	Class of perception
<Mean +/2 SD	0	Low
= Mean +/2 SD	1	Medium
>Mean +/2 SD	2	High

The level of perception of the respondents was ascertained using the Gaussian distribution model. (Figure 3) results show low perception to be at (38.0%), medium perception to be at (53.0%) and high perception to be at (9.0%). The perception of the plagiarism policy was shown to be statistically insignificant ($p <0.05$).

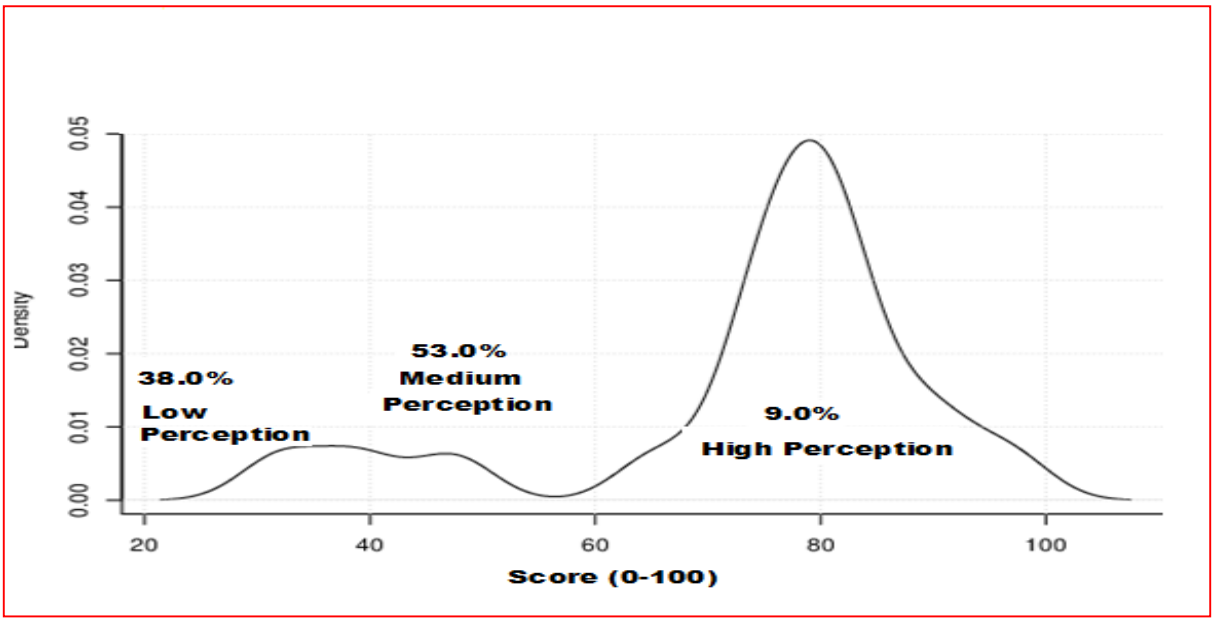

Fig 3. Acceptance level of national plagiarism policy.

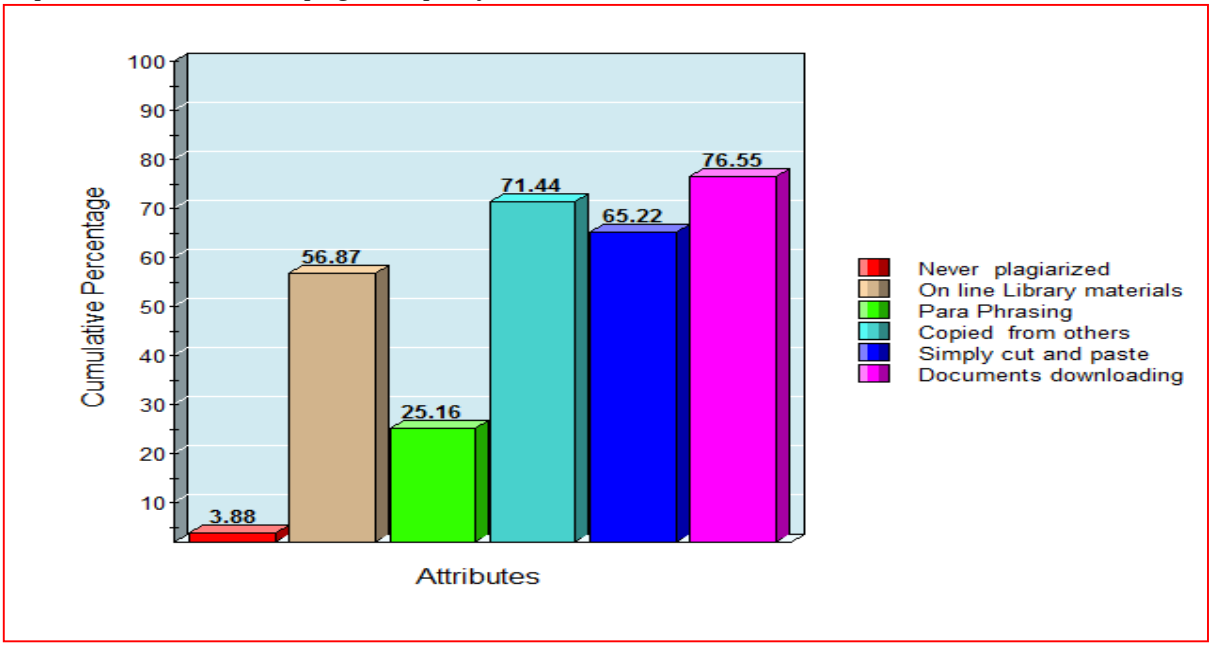

Fig 4. Utilization level of plagiarism from Students and faculty members.

From (Figure 4) different traits were tested using a multivariate logistic regression model and the results showed that both faculty members and students were practiced six forms of widespread plagiarism. The information was directly copied from pre-existing different online sources was (71.44%, odds 6.97), research materials has quickly downloaded from the websites (76.55%, odds 5.08) and copied from the library data base (65.22%, odds 10.74).

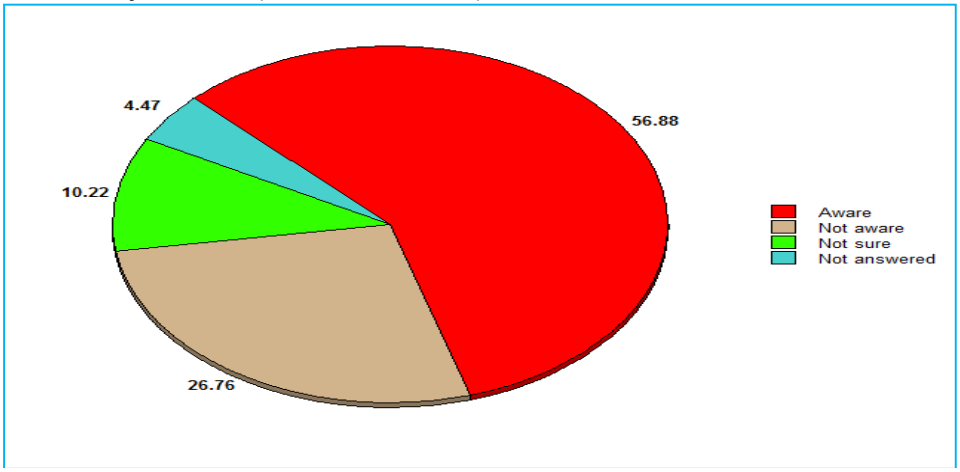

Fig 5. Publication of a national plagiarism awareness campaign

According to the literature, plagiarism raises complex challenges that affect reputation as well as legal, intellectual, social, professional and moral concerns. The ministry has implemented the policy which can incorporate some legal morality standards and self-esteem of outrage with violators as they carry of success. However, if a national policy against plagiarism is enacted, how professional teachers, researchers and students would be thinking about it from a policy perspective of plagiarism tested by Univariate t –test. (Figure 5) majority of respondents (56.88%, t=3.61, p =0.001) were completely aware of the policy while only (26.76%) were not aware (10.22%) were unaware of the policy that had been made and (4.47%) did not respond. It is still up for discussion in the twenty-first century whether engaging in unethical academic malpractice is acceptable.

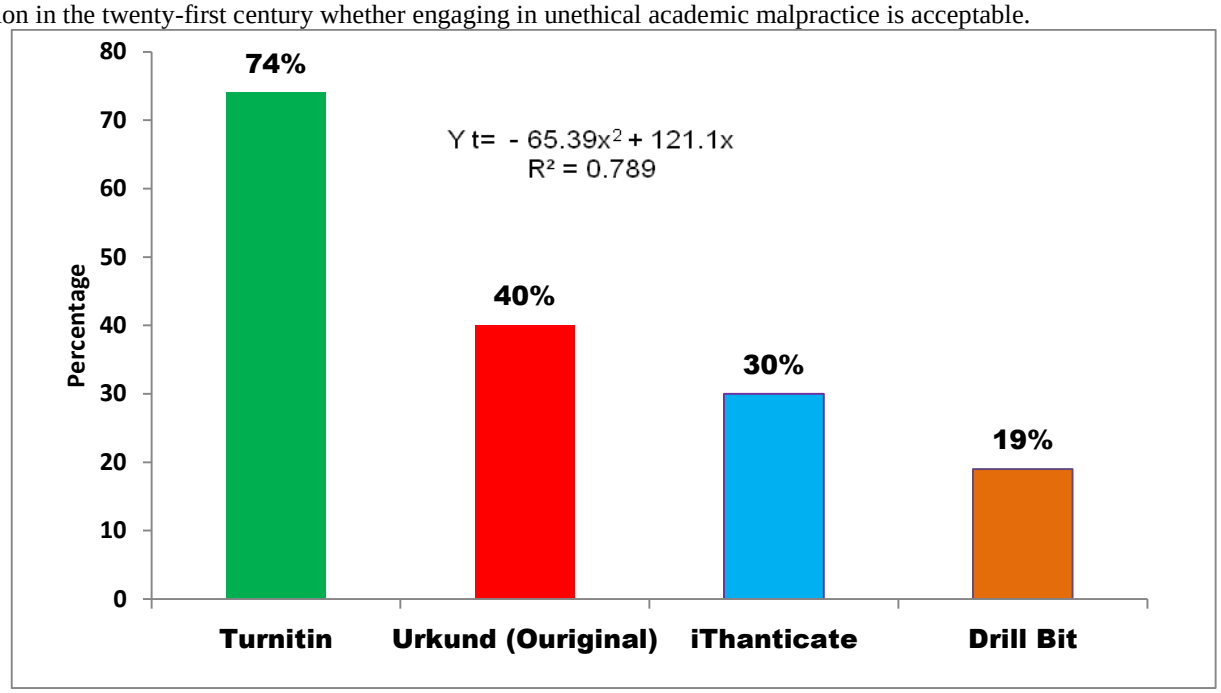

Fig 6. Different softwares used for diagnostic checking of plagiarism

There are numerous strategies for preventing plagiarism, however according to the research findings, just (3.88%, n=35) respondents employed any of these approaches effectively (Fig 6). The hypothesis was tested by Chi-square which shows statistical significance at the 5% level of significance (Chi-square 4.74, DF 2) and also all (n=35) respondents were diagnostically cross checked the documents before submission of manuscript to the Journals. Paraphrase (37.14%), citation styles (80%), proofreads (82.85%), mathematical equations and quotes (;) (42.86%), reference styles (94.29%), and seek expert help (45.71%) were all used to reduce plagiarism in their manuscripts.(The most promising softwares used by the respondents was turnitin (74%); Urkund (40%); iThanticate (30%) and drill bit (19%) respectively.

Discussion

The prevalence of plagiarism varies and is derived from a variety of factors, according to the Indian perspective including at the global level [1,5]. The majority of university faculty members were found to lack writing and scientific skills, as well as the capacity to comprehend the true nature of the process of educational research [6]. Due to pressure from families and employment, university teaching faculties prioritise academic and research activity [3,7]. Research has shown a favourable correlation between these factors and plagiarism. However, the necessity to develop scientific knowledge and a workplace culture to promote higher academic marks and inconsistently negative evaluations drove the teaching staff [8]. The same direction was taken by both researchers and students. These results are more in line with research from Weill Cornell Medicine at Cornell University in New York City as well as studies from Europe and the Middle East and Sattar, Roff, and Meo [7]. Both faculty memebrs and students displayed a dishonest attitude, and these results are similar to those of a study conducted by Guraya SY [2] who found that different students and faculty had different perceptions of plagiarism. Additionally, the majority of professors and students did not view sharing research data on individual works as being serious, which suggests that there is a significant gap to be filled in terms of plagiarism intervention . All research institutions and universities should be adopting various preventative measures to reduce plagiarism, such as adopting strict annual performance indicators (API) for the assessment of teachers and adopting or implemenation of UGC plagiarism regulations at all HEI [4]. The raising awareness among PGs, Ph.D.s, and teachers should providing hands-on training for diagnostic softwares and imposing penalties for those found guilty or falsification. Although, financial and moral supports is crucial for implementation to educational and research prosperity. Most of the Indian universities received a low budget for research and dissemination which has a detrimental effect on teachers' ability to do research and publish their manuscripts [2]. About 50–60% of teachers have been known to stray from the intended course of their research designs, conduct fake research and publish their findings in journals that have considered in predatory journals . In addition to the aforementioned key componets , the Institutional training programme useful to help them to write better scientific articles and other publication process .

Conclusion

The current study concludes that national policy should be formulated with clear, severe instructions for each action the institutional mechanism should take to address the plagiarism epidemic in light of the overall research findings. Increase awareness among Higher educational Instituions teachers, researchers and students to minimise the negative thoughts on plagiarism . The concerned comptent authority should implment the policy laid down by government regulations time to time and significanlty provide

hands on training progmramme to the teachers and students. To create the awarenss of research and development to maintian the International standards.

Acknowledgments

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Disclosure of conflict of interest

The current study had no conflicts of interest with any funding agencies because it was based on primary and secondary survey data.

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