



Exploring Plagiarism Awareness, Motivation, And Intentions Within The Ayurvedic Domain

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Article History	Abstract
Received: 25 July 2023 Revised: 04 Sept 2023 Accepted: 24 Oct 2023	As plagiarism is a serious offense, it is critical for researchers to examine their work for plagiarism. Consequently, this study aims to shed light on the issue of plagiarism within the Ayurveda domain, providing valuable insights into the awareness, motivations, and purposes behind plagiarism. This is an empirical study based on the primary data collected from the field of Ayurved domain using a survey approach. The collected data was analyzed using descriptive and inferential statistics for hypothesis testing to draw conclusions. Researchers collected data from 194 participants (38% male and 62% female) with an average age 31.19 years (± 0.80) and SD 11.11 years. They included 58.76% of students, 40.72% of teachers, and 0.52% of researchers having education qualifications as 37.63%, 40.72%, and 21.65% for undergraduate (UG), Post Graduate (PG), and Doctoral (Ph.D.) respectively. Formulated four research hypotheses, through their respective sub-hypotheses, are tested for independence using parametric χ^2 test of independence at 95% confidence level ($\alpha = 0.05$). Awareness about plagiarism depends upon educational qualification as well as professional-category of the personnel. It is found to be in increasing order with respect to educational qualification, more in teachers than students. The motivation behind the plagiarism check was also found to be dependent upon educational qualification and professional category. Mandatory-requirement factor increases with an academic qualification and is found to be higher in teachers than students. The researcher further observed that the selection of plagiarism detection software is independent of educational qualification and professional category. It found effectiveness as the primary factor for selection followed by price. By understanding these plagiarism aspects, it is possible to develop strategies to prevent plagiarism and promote ethical research practices in the field of Ayurveda, ultimately preserving the integrity of this traditional system of medicine.
CC License CC-BY-NC-SA 4.0	Keywords:- Ayurved, Plagiarism, Plagiarism Awareness, Plagiarism Motivation, Plagiarism Purpose, Plagiarism Detection Software

1. Introduction:

Plagiarism is defined as the practice of using someone else's words or works and presenting them as one's own. It can also be described as the depiction of another author's words, thoughts, ideas, or expressions as one's own

unique work without attributing the source [1-2]. The underlying concept was acknowledged in the past, and the term as such was used for the first time in 1601 to refer to someone who had committed literary theft [1-3]. Generically when someone claims an idea or the way it is expressed is their own when it is actually someone else's, then they have committed plagiarism [4-5]. Thus various types of research misconduct inclusive of fabrication of results, falsification of data, misreading of data, drawing specific inferences, and the use of copied data or ideas inside a study report considered plagiarism [6]. Plagiarism may take many different forms depending on the involved type of content and nature of misconduct such as ideas, text, designs, collusion, self-plagiarism, and patchwriting [7-12]. There is pressure on researchers to publish their work in reputable publications. It observed that the prevalence of plagiarism rises when this pressure is combined with a lack of time, a lack of research abilities, and the simplicity of finding information and publications online. Plagiarism rates in the health science domain have been found to range from 11 to 19% depending on the community [13-14]. As plagiarism is a serious offense, it is critical for researchers to examine their work for plagiarism. The process of plagiarism detection is automated through plagiarism detection software by providing researchers with a detailed report on plagiarism across multiple resources available over the Internet [15]. Many Ayurved Universities in India are using different software to detect plagiarism and check on Ayurved postgraduate students' works. Bharati Vidyapeeth (Deemed to be University), Pune is one of the first universities to promptly initiate for plagiarism check for all constituents. Bharati Vidyapeeth (Deemed to be University) College of Ayurved, Pune is using URKUND plagiarism software for similarity checking of PG, Ph.D. work. A plagiarism check is also done for research papers prepared by faculties. Subjects from the Ayurved domain from all over India have participated in this study. This study aims to shed light on the issue of plagiarism within the Ayurveda domain, providing valuable insights into the awareness levels, motivations, and purposes behind plagiarism.

Research Problem:

This research proposes to study the status of plagiarism awareness scenario with respect to the Ayurved domain by studying its awareness and perception of involved personnel. It also plans to explore the same at the conceptual as well as applied levels.

Research Objectives:

This study objectively explores the research problem through stated objectives with respect to age, gender, education-qualification, and professional-category in the Ayurved domain:

- Awareness about plagiarism-concept
- Motivation and purpose behind the use of plagiarism analysis
- Factors affecting the choice of plagiarism detection software

Research Hypotheses:

The stated research objectives transformed into research hypotheses as follows to define the scope and direction of this study:

- Awareness of the plagiarism concept is independent of educational qualification and professional category.
- The motivation behind the use of plagiarism analysis is independent of educational qualification and professional category.
- The purpose behind the use of plagiarism analysis is independent of educational qualification and professional category.
- Factors affecting the choice of plagiarism detection software is independent of educational qualification and professional category.

2. Materials and Methods

Research Methodology:

This is an empirical study based on the primary data collected from participants using a survey approach. The collected data then be analyzed using descriptive and inferential statistics for hypothesis testing to draw conclusions.

Design of Data Collection Instrument:

This study decided to use a questionnaire as a data collection instrument as it involves primary data collection from a large number of participants. The initial instrument draft of the instrument is fine-tuned after a pilot study followed by content validity and reliability analysis. The final version of the instrument included 11 items namely Participant (item-1), Gender (item-2), Age (item-3), Educational Qualification (item-4), Category (item-5), Awareness about Plagiarism Concept (item-6), Awareness about Plagiarism Software

(item-7), Motivation to Check Plagiarism (item-8), Purpose to Check Plagiarism (item-9), Factors affecting Selection of Plagiarism Software (item-10) and Need for Training on Plagiarism Concept and Software (item-11).

Selection of Participants: There are approximately 3.6 lakh personnel associated with the Ayurved domain in India. As this study plans to study plagiarism with respect to the Ayurvedic domain, researchers decided to consider this as the population for this study. They also decided to focus on personnel involved in academic research, as the concept of plagiarism is more relevant to these categories, which were found to be approximately 30,000+ as per the literature review and Internet research. This resulted in a sample size of 117 or more to have 95% confidence level with 5% margin of error. Researchers decided to reach 250+ probable participants considering an approximate response rate of 50%. A convenient sampling strategy was used through a social media platform dedicated to Ayurved personnel to reach the probable participants.

Administration of the Instrument: As the participants are geographically spread across India, this study uses a self-administered approach to conduct the survey through online mode. Accordingly, an online version of the data collection instrument with appropriate instructions is used for the same. This provided the researchers with fully filled responses from 194 participants.

Data Collection:

Online mode automatically enabled the archival of collected data in a spreadsheet. The collected data is mostly textual in nature except for item 3. Researchers decided to perform numerical encoding of this data through data pre-processing to enable its analysis.

Data Pre-processing:

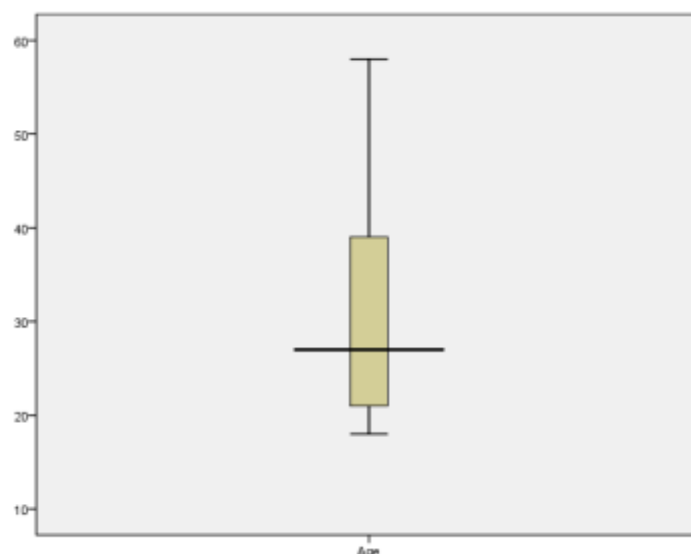
The data collection instrument included close-ended items like gender (Male/Female), education (UG/PG/Ph.D.), category (Student/Teacher/Researcher), awareness-about-plagiarism-concept (Yes/No), awareness-about-plagiarism-software (Yes/No) and requirement-of-training-about-plagiarism-concept-and-software (Yes/No). These items were numerically encoded as 1-2 and 1-3 appropriately. The instrument also included open-ended items such as motivation-to-check-plagiarism, purpose-to-check-plagiarism, and factors-affecting-selection-of-plagiarism-software. Analysis of corresponding collected data revealed that responses from the majority of participants for these items also follow a pattern and can be grouped into appropriate categories. Therefore, researchers encoded them with 4 (1-4), 4 (1-4), and 7 (1-7) categories respectively where the last encoded category encompasses few unique responses and is labeled as “other”. The data was found to be redundant for teacher and researcher categories for item 5. Therefore, it decided to combine both of them under the teacher category for ease of distinction from the student category.

Descriptive Data Analysis:

Researchers received data from 194 participants consisting of 38% male and 62% female. Their average age was found to be 31.19 years (± 0.80) with 18, 58, and 40 years as a minimum, maximum, and range respectively (SD = 11.11 years). They included 58.76% of students, 40.72% of teachers, and 0.52% of researchers. The education qualification of the participants was distributed as 37.63%, 40.72%, and 21.65% for undergraduate (UG), Post Graduate (PG), and Doctoral (Ph.D.) respectively.

Outlier Analysis:

The data pre-processing resulted in close-ended responses for 10 out of 11 items of the instrument. Item 3 (Age) is the only item expecting an open-ended numeric value. There is no need to perform an outlier analysis for 10 close-ended items as further processing considers their responses from specific categories only. Therefore, only item 10 needs to be analyzed for the existence of any outliers and its boxplot analysis revealed none (Figure 1).



(Figure 1: Outlier Analysis for item-3 using Boxplot)

This analysis suggests including the entire available data for further analysis as there are no outliers present in the collected data.

Reliability Analysis of Responses:

The received responses were then further analyzed for their internal consistency using Cronbach's Alpha. Researchers decided to logically group synchronous items to conduct this analysis. Accordingly, item 4 and item 5 resulted in $\alpha = 0.81$ which was found to be in the acceptable range of $\alpha > 0.70$. This analysis excluded the remaining items, as they are more dichotomous in nature. An acceptable level of internal reliability of data gave researchers confidence to proceed further. Analysis of the distribution of collected data is considered the next step before going for inferential statistical analysis.

Distribution Analysis of Data:

Data needs to be analyzed to decide its parametric or non-parametric nature. Kolmogorov–Smirnov test for normality was used for this purpose, as the sample size is large. It resulted in 0.404, 0.173, 0.243, 0.384, 0.535, 0.341, 0.223, 0.169, 0.352, and 0.517 values for Kolmogorov-Smirnov statistics for item 2 to item-11 respectively with Sig. a value less than 0.01. This concluded that the collected data follows a normal distribution for all its items with 95% confidence level. This suggested the use of parametric tests for inferential analysis with respect to collected data.

Testing of Hypothesis-1: This hypothesis is complex in nature. It needs to be divided it into two statistical hypotheses, hypothesis 1-1 and hypothesis 1-2 for inferential analysis.

Hypothesis-1-1:

H₀: Awareness about plagiarism concept is independent of educational qualification.

H₁: Awareness about plagiarism-concept is not independent of educational qualification.

Hypothesis-1-2:

H₀: Awareness about plagiarism concept is independent of the professional category.

H₁: Awareness about plagiarism-concept is not independent of the professional category.

As the involved data is discrete and categorical in nature, χ^2 test of independence was selected to test these hypotheses with 95% confidence level. This resulted into χ^2 value of 23.46 with 0.000 Asym. Sig. (2-sided) and χ^2 value of 8.809 with 0.003 Asym. Sig. (2-sided) for hypothesis-1-1 and hypothesis-1-2 respectively.

Testing of Hypothesis-2: This complex hypothesis is divided into two statistical hypotheses, hypothesis-2-1 and hypothesis-2-2 for inferential analysis.

Hypothesis-2-1:

H₀: Motivation behind the use of plagiarism analysis is independent of educational qualification.

H₁: Motivation behind the use of plagiarism analysis is not independent of educational qualification.

Hypothesis-2-2:

H₀: Motivation behind the use of plagiarism analysis is independent of professional category.

H₁: Motivation behind the use of plagiarism analysis is not independent of professional category.

As the involved data is discrete and categorical in nature, χ^2 test of independence was selected to test these hypotheses with 95% confidence level. This resulted in χ^2 value of 14.67 with 0.023 Asym. Sig. (2-sided) and χ^2 value of 11.55 with 0.009 Asym. Sig. (2-sided) for hypothesis-2-1 and hypothesis-2-2 respectively.

Testing of Hypothesis-3: This complex hypothesis is divided into two statistical hypotheses, hypothesis-3-1 and hypothesis-3-2 for inferential analysis.

Hypothesis-3-1:

H₀: Purpose behind the use of plagiarism analysis is independent of educational qualification.

H₁: Purpose behind the use of plagiarism analysis is not independent of educational qualification.

Hypothesis-3-2:

H₀: Purpose behind the use of plagiarism analysis is independent of professional category.

H₁: Purpose behind the use of plagiarism analysis is not independent of professional category.

As the involved data is discrete and categorical in nature, χ^2 test of independence was selected to test these hypotheses with 95% confidence level. This resulted in χ^2 value of 162.4 with 0.000 Asym. Sig. (2-sided) and χ^2 value of 72.4 with 0.000 Asym. Sig. (2-sided) for hypothesis-3-1 and hypothesis-3-2 respectively.

Testing of Hypothesis-4: This complex hypothesis is divided into two statistical hypotheses, hypothesis-3-1 and hypothesis-3-2 for inferential analysis.

Hypothesis-4-1:

H₀: Factors affecting the choice of plagiarism detection software are independent of educational qualification.

H₁: Factors affecting the choice of plagiarism detection software are not independent of educational qualification.

Hypothesis-4-2:

H₀: Factors affecting the choice of plagiarism detection software are independent of professional category.

H₁: Factors affecting the choice of plagiarism detection software are not independent of professional category.

As the involved data is discrete and categorical in nature, χ^2 test of independence was selected to test these hypotheses with 95% confidence level. This resulted into χ^2 value of 7.25 with 0.298 Asym. Sig. (2-sided) and χ^2 value of 5.98 with 0.113 Asym. Sig. (2-sided) for hypothesis-4-1 and hypothesis-4-2 respectively.

3. Result and Discussion

We can reject null hypotheses for hypothesis-1-1, hypothesis-1-2, hypothesis-2-1, hypothesis-2-2, hypothesis-3-1, and hypothesis-3-2 at 95% confidence level, as there are significant associations between the involved items (Asym. Sig. $< \alpha$, where $\alpha = 0.05$). However, we failed to reject hypothesis-4-1 and hypothesis-4-2 at 95% confidence level as there is an absence of any significant association between the involved items (Asym. Sig. $> \alpha$, where $\alpha = 0.05$).

Analysis of hypothesis-1 suggested that the awareness about plagiarism-concept is dependent on educational-qualification and professional-category. The result of the corresponding descriptive analysis is tabulated in Table 1.

(%)	Qualification			Category	
	UG	PG	PhD	Student	Teacher
Aware	79.45	98.73	100.00	86.84	98.75
Not aware	20.55	1.27	0.00	13.16	1.25

(Table 1: Awareness about Plagiarism Concept)

Analysis of hypothesis-2 suggested that the motivation behind the use of plagiarism check is dependent on educational-qualification and professional-category. Corresponding descriptive analysis of motivation factors such as voluntary-choice, mandatory-requirement, fear of consequences, and others tabulated in Table 2.

(%)	Qualification			Category	
	UG	PG	PhD	Student	Teacher
Voluntary Choice	42.47	27.85	23.81	38.60	23.75
Mandatory Requirement	23.29	44.30	54.76	28.95	52.50
Fear of Consequences	26.03	24.05	14.29	26.32	17.50
Other	8.22	3.80	7.14	6.14	6.25

(Table 2: Motivation behind the use of Plagiarism Check)

Analysis of hypothesis-3 suggested that the purpose behind the use of plagiarism check is dependent on educational-qualification and professional-category. It factors affecting the purpose included plagiarism check of documents pertaining to UG-project, internship-project, PG-dissertation, research-article, book/book-chapter, Ph.D. thesis, and other. Its descriptive analysis is stated in Table 3.

(%)	Qualification			Category	
	UG	PG	PhD	Student	Teacher
UG Project	46.58	0.00	0.00	29.82	0.00
Internship Project	0.00	1.27	0.00	0.00	1.25
PG Dissertation	2.74	55.70	4.76	30.70	16.25
Research Article	15.07	15.19	23.81	10.53	26.25
Book/Book Chapter	9.59	1.27	0.00	6.14	1.25
PhD Thesis	2.74	8.86	50.00	1.75	35.00
Other	23.29	17.72	21.43	21.05	20.00

(Table 3: Purpose behind the use of Plagiarism Check)

Analysis of hypothesis-4 suggested that the factors affecting the choice of plagiarism detection software are independent of educational-qualification and professional-category. Its corresponding descriptive analysis is presented in Figure 2.



(Figure 2: Factors Affecting Selection of Plagiarism Software)

4. Conclusion:

The analysis of data and its corresponding discussion concludes that awareness about plagiarism depends upon educational qualification as well as professional-category of the personnel. It is found to be in increasing order with respect to educational qualification, and more in teachers than students. The motivation behind plagiarism checks is also found to depend upon educational qualification and professional category. Mandatory-requirement factor increases with an academic qualification and is found to be higher in teachers than students. Dependence is also observed for the purpose behind plagiarism check with curriculum - specific preferences by students as well as teachers. No specific pattern is observed here, as these profiles tend to be dynamic with volatile requirements. The study further observed that the selection of plagiarism detection software is independent of educational qualification and professional category. It found effectiveness as the primary factor for selection followed by price. Whether plagiarism is intentional or not, it can still have a negative impact on a researcher's future career. This necessitates the more creation of plagiarism detection systems, stricter penalties for plagiarism, and an effort to raise students understanding of plagiarism and its ethical and moral implications in Ayurveda domain. By understanding plagiarism aspects, it is possible to develop strategies to

prevent plagiarism and promote ethical research practices in the field of Ayurveda, ultimately preserving the integrity of this traditional system of medicine.

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