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Forensic Anthropology: A Survey among The Practitioner about the Knoweledge of Forensic Anthropology and its Methods

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ABSTRACT

Aim: The primary aim of this study was to conduct a comprehensive survey among various practitioners including law enforcement officers, medical professionals, and forensic experts (Police officers, Densities and Advocates) to evaluate their awareness, understanding, and application of forensic anthropology in real-world forensic investigations.

Methodology: A total of 150 respondents had taken part in the survey with structured questionnaire. Three anonymous questionnaires were designed for this survey. Each questionnaire targeted a specific profession: police officers (PO)(50), Dentists (50) and Advocates (50).

Result: Results showed that fresher and trainees are holding high knowledge about forensic anthropology than the experienced categories in all three types of practitioners. But when the comparison of three categories is done, then high knowledge about forensic anthropology is got from police officer among the other two categories. The reason of this may be, police officers directly/indirectly get involve in the task of forensic anthropology. It is possible they may not know the proper identification methods. But due to involvement of police officers in number of cases, they develop an experience by which police officers can recognise the body whether it is of a human or an animal or what will be its age.

Conclusion: By the way of conclusion, it can be said, all the categories of practitioner need to be well coordinate in the systemized manner, Moreover, they also should arm with required knowledge related to these medico legal case.

KEYWORDS

• Forensic Anthropology • Practitioner • Dentists • Advocates • Police Officer

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INTRODUCTION

Legal science is where law meet with science to discover the evidences. To distinguish a individual through a skeleton, numerous specialists are required. Those specialists are police officers, dental practitioners conjointly worked as examiners. That's why it is said that justice is never found within the blink of an eye. These people work together in arrange to draw conclusions from prove, basically by applying their information of the human skeleton to a case or subject at hand. So it is very necessary that people those are directly or indirectly involve in the investigation should know about the different process and methods about forensic science. In the study that has been done, people from different branches have been included and it has been seen how much they know about forensic anthropology and how much they adopt its methods because all the people involved in this judicial process should be aware of it, its methods and all its activities. Over the past ten years, research on forensic anthropology and odontology knowledge and awareness has been carried out in Indian cities. These studies have used validated questionnaires.[7] The present study sought to identify the extent of knowledge regarding key aspects such as age estimation, biological profiling, post-mortem interval analysis, and human versus non-human remains differentiation. By analysing the responses, the study aimed to highlight existing gaps in knowledge and practice, thereby providing insights for future training and curriculum development in forensic sciences.

METHODOLOGY

Sampling

A total of 150 respondents had taken part in the survey with structured questionnaire in SAS Nagar Mohali, Punjab. Three anonymous questionnaires were designed for this survey. Each questionnaire targeted a specific profession: police officers (PO), Dentists and Advocates. The questionnaires were designed. The questions were close ended, and information was obtained from the demographic data of participants, which includes age, gender, and education level. The questionnaire was divided into three parts, namely knowledge, attitude, and practice.

Data Collection

The data was obtained through primary and secondary sources to answer the research question. The method used for collecting the primary data in this study was survey questionnaire to measure the respondents' knowledge. The main sources of secondary data in this research shall be collected from different online sources such as reports, surveys, and websites of Research Institutes, published books, online journals and papers.

RESULTS AND DISCUSSION

Overall, there were 150 responses, 50 from police officers (PO), 50 from Dentists and 50 from Advocates. Parctitions are also divided into sub categories on the basis of experience they have in their profession 1) trainee/fresher 2) Experience above 5 years 3) Experience above 10 years.

Table 1: Response of practitioners about the knowledge of Forensic Anthropology

Practitioners	Work Experiences	Rank	(N=150)	Percentage (%)
Dentists	Pursuing degree	Low	23	46
	Experience above 5 years	Medium	15	30
	Experience above 10 years	High	12	24
Advocates	Trainees	High	27	54
	Experience above 5 years	Medium	16	32
	Experience above 10 years	low	7	14
Police Officer	Fresher	high	24	48
	Experience above 5 years	medium	19	38
	Experience above 10 years	low	7	14

Dentists a large portion (46%) of those pursuing a degree demonstrate low knowledge of forensic anthropology, suggesting that it may not be a prominent focus in dental curricula. Those with over 10 years of experience are more likely to have higher knowledge (24%), possibly due to specialized exposure or workshops. Trainee advocates show the highest high-knowledge percentage (54%), possibly due to recent educational integration or elective coursework. Knowledge declines with experience, with only 14% of the most experienced advocates rated as low, indicating a lack of continued exposure. Police Officers freshers have a fairly high level of knowledge (48%), indicating that modern training programs may include forensic anthropology basics. However, as with other groups, knowledge decreases with experience, with only 14% of the most experienced officers showing high knowledge (Table 1).

Table 2: Response of practitioners about methods of forensic anthropology

Practitioner	Work Experience	Rank	No. of Dentists (N=50)	Percentage (%)
Dentists	Pursuing degree	High	20	40
	Experience above 5 years	Medium	17	34
	Experience above 10 years	low	10	20
Advocates	Pursuing degree	High	28	56
	Experience above 5 years	Medium	14	28
	Experience above 10 years	low	8	16
Police Officer	Pursuing degree	High	30	60
	Experience above 5 years	Medium	13	26
	Experience above 10 years	low	11	22

Across all practitioner categories, those currently pursuing degrees tend to show a higher level of knowledge in forensic anthropology methods compared to those with more years of work experience. Police officers have the highest percentage (60%) of individuals with a high knowledge level among those still studying, suggesting recent training or curriculum inclusion. Dentists and advocates show similar trends, though the drop in knowledge rank is more notable among dentists as work experience increases. Those with more than 10 years of experience in all three groups tend to have the lowest levels of updated knowledge, possibly due to lack of continued exposure or recent academic updates in forensic methods (Table 2).

Table 3: Responses of practitioner concerning the perception of main Forensic anthropology tasks

Parameters	Advocates	Police officer	Dentists
No. of cases studied related to Forensic Anthropology	20%	72%	44%
Age estimation from remains	14%	23%	6%
Biological profile	13%	76%	26%
Analysis of post mortem interval	2%	70%	5%
Human/nonhuman Differentiation	4%	73%	53%
Dental analysis	10%	56%	83%
Involvement in forensic casework	12%	84%	23%

Police Officers show the highest overall involvement across most parameters. Particularly strong in practical exposure: 84% involved in casework, 76% in biological profiling, 73% in human/nonhuman differentiation. Suggests regular and hands-on interaction with forensic anthropology in criminal investigations. Highest in dental analysis (83%), as expected due to their expertise. Also have moderate exposure to human/nonhuman differentiation (53%) and case studies (44%). However, limited involvement in age estimation (6%) and postmortem interval analysis (5%). Advocates are owest across most categories. Slightly better awareness in case studies (20%) and age estimation (14%), possibly through academic exposure or legal cases involving forensic reports. Minimal involvement in postmortem analysis (2%), showing a gap in scientific knowledge (Table 3).

DISCUSSION

The present study is survey among the practitioners about forensic anthropology. Total 150 practitioners are included in this study (Dentists (50), Advocates (50), and Police officer (50). Results showed that freshers and trainees are holding high knowledge about forensic anthropology than the experienced categories in all three types of practitioners. In the advocate's categories, it has been observed that advocates who had 50-year work experience, they did not directly or indirectly get involved in any forensic anthropology case. But when the comparison of three categories is done, then high knowledge about forensic anthropology is got from police officer among the other two categories. The reason of this may be, police officers directly / indirectly get involve in the task of forensic anthropology. It is possible they may not know the proper identification methods. But due to involvement of police officers in number of cases, they develop an experience by which police officers can recognise the body whether it is of a human or an an animal or what will be its age. A survey in Switzerland was conducted to Swiss anthropologists (AN) and related professions (police officers, prosecutors, and forensic pathologists) to assess three main aspects: (1) the experience of working (biological/ forensic) anthropologists within FA; (2) how FA is perceived by other professions within the legal system; and (3) identify gaps (if any) in understanding of FA with the aim to suggest avenues for improvement if necessary. The results revealed the focus on osteological analyses and indicated that facilitation of communication and collaboration leads to improvement in the awareness of the competencies of FAs and their contribution to forensic investigations.[9] Another survey done on 194 participants (97 police officers and 97 legal professionals). A questionnaire was designed to assess the awareness about Forensic Odontology. Results showed that the collected results highlighted the need for better training on Forensic Odontology for the police officers and legal professionals. According to this study, the result showed higher knowledge among legal professionals when compared to police officers[5]

When the three categories of practitioners asked about the methods the methods of forensic anthropology, the dentists hold the high knowledge about the methods among other two categories. This is because dentists normally involved in age estimation process by teeth. That's why they normally adopted and apply the different methods of identification. the majority of the advocates were aware of bite mark analysis [2]. According to Iyer et al. the percentage of lawyers who knew about the estimation of age and gender determination using teeth and facial bones were 97% and 94% respectively[3]. Study conducted in 2016 among the dental teaching staff, found that while there is a basic understanding of forensic dentistry, there is no career potential or incentive to advance in this discipline, which discourages scientific curiosity.[8] Whereas clear collaboration structures for Forensic anthropologists in Denmark exist and different aspects of forensic anthropolgy are practised at three different departments of forensic pathology.[1] The position of forensic anthropology and forensic anthropologists in Switzerland appears to be most similar to that of Sweden when compared to these three nations. Although there are many different job options for anthropolgy in Switzerland, little is known about their role in human identification and other forensic anthropological expertise among other actors involved in forensic casework, including forensic pathologists (FP), police officers (PO), and prosecutors (PR) [10]. The study on Role of forensic dentistry for dental practitioners: a comprehensive study and Status of forensic

odontology in metro and in tier 2 city in urban India showed that Due mostly to a lack of formal training, found that forensic dentistry awareness is extremely low in Indian cities and towns. An analysis of Legal experts came to the conclusion that they understood the significance of dental evidence well enough. However, specialized understanding in areas such as lip prints, rugal patterns, etc., was insufficient.To the best of our knowledge, this is the first study to examine how forensic anthropology is viewed by professionals in the field, such as police Officers, densities and advocates.[4,6] This survey revealed innate gaps in the theses practitioners understanding of the function and capabilities of forensic anthropology. Nonetheless, the vast majority of participants expressed a desire to learn more about the field of forensic anthropology, so it is advisable to spread knowledge about forensic anthropology tasks and competencies to other forensic actors through lectures or seminars.

CONCULSION

Police officers are the most actively engaged group in applying forensic anthropology techniques. Dentists specialize mainly in dental-based forensic methods, with limited broader involvement. Advocates have limited scientific exposure, underlining the need for interdisciplinary legal-medical training to bridge understanding. By the way of conclusion, it can be said, all the categories of practitioner need to be well coordinate in the systemized manner, first come the police officers who by virtual of first can experience with the cases related to forensic anthropology, they can readily identify age or human and non-human skeleton. But in the absence of their subject specific findings need to be authorized by the experts of medical profession like dentists. Finally, the advocates, since they have to plead the case in the court, must also be well versed with terminology related to forensic anthropology. Moreover, they also should arm with required knowledge related to these medico legal case. The present study recommended the further research and suggestions to establish postgraduate courses in forensic anthropology and impart regular training to forensic anthropologists.

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