

# Positive versus Negative Exhumation Post-Mortem: An Ethical Concern of a Burial Body

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## ABSTRACT

**Aim:** To determine the positive versus negative exhumations requested by the family members on the basis of allegations.

**Study design:** Retrospective study

**Place and duration of study:** Department of Forensic Medicine & Toxicology, Peoples University of Medical & Health Sciences for Women, Nawabshah, Shaheed Benazirabad from 1st January 2015 to 31st December 2018.

**Methods:** Fifty six deceased were collected from the Department of Forensic Medicine. The process of exhumation was based on the family members who requested exhumation on the basis of allegations and doubts they had that deceased was murdered not died natural death or suicide. Our conducted data included both males and females of any age and none of the exhumated deceased were excluded from the study.

**Results:** Majority were males 39 (69.64%) and 17 were females (30.35%). The minimum age of exhumated body was 21 years and maximum was 69 years. Thirty two (57.14%) were positive. Among all positive exhumations for homicide was 56.86% (n=29/51), positive exhumations for suicide was 100% (n=2/2) and positive exhumation for DNA analysis was 50% (n=1/2).

**Conclusion:** Positive exhumations comprises of >56% and most of them were requested by the family as a suspicion of homicide.

**Keywords:** Exhumation, Post-mortem, Burial body

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## INTRODUCTION

Exhumation is a medicolegal procedure in which deceased is removed from the grave/ground for the purpose to establish the cause of death. Mostly these are requested by the family due to many reasons such as family is in doubt that person's death is not due to natural cause but is killed by someone and also it is sometimes ordered by the court to solve medicolegal cases<sup>1,2</sup>.

Studies based on the allegations have not been conducted and the data is not available most of the studies are simply conducted just to evaluate the cause of death by performing exhumation<sup>3,4</sup>. Worldwide medicolegal cases are common but documentation of such cases and evidence based statistics are rarely done not only in Pakistan but also throughout the world. Increasing number of sudden deaths are also a major risk factors for causing suspicion in a family and led them towards postmortem or exhumation. But in some cases the cause of death even after exhumation is not determined this is because of some underlying factors which may affect the process and procedure of exhumation such as cardiac illnesses, seasonal environment, soil conditions, and coffin material.<sup>5-7</sup> In Pakistan, data on exhumation post-mortem is very limited and to our best knowledge there is no study has been conducted in Pakistan which scientifically provides the data regarding evaluation of positive and negative exhumations which were requested by the family suspecting their family member was killed not died due to natural cause or suicide.

## PATIENTS AND METHODS

This retrospective study was carried out at Department of Forensic Medicine & Toxicology, Peoples University of

Medical & Health Sciences for Women, Nawabshah Shaheed Benazirabad from 1st January 2015 to 31st December 2018. A total of 56 deceased were collected. The process of exhumation was based on the family members who requested exhumation on the basis of allegations and doubts they had that deceased was murdered not died of natural death or from suicide. Our conducted data included both males and females of any age and none of the exhumated deceased were excluded. The data was entered and analyzed through SPSS-21.

## RESULTS

Majority were males 39(69.64%) and 17 were females (30.35%) [Fig. 1]. The minimum age of exhumated body was 21 years and maximum was 69 years. Most of them were belonged to urban areas 41(73.21%) than rural 15 (26.78%) and the mean duration of exhumation from death was 11 weeks. Our main objective was to determine how many of the requested exhumations were positive based on the allegations imposed by the family. Among all of the exhumated bodies, most common request for exhumation was based on the suspicion that their family member was killed 51(91.07%) not died due to natural death and 3(5.35%) exhumations were requested based on the suspicion that their family member did suicide and not killed by any other person, while 2 family members (3.57%) requested exhumation for the analysis of DNA (Fig. 2).

There were 32(57.14%) were positive. Among all positive exhumations for homicide was 56.86% (n=29/51), positive exhumations for suicide was 100% (n=2/2), and positive exhumation for DNA analysis was 50% (n=1/2) [Fig. 3]. Among all positive exhumations, the most common method of killing a person was hitting with a sharp instrument (n=19/51, 37.25%) while killing a person with

gunshot was the second most common cause (n=8/51, 15.68%), and 9.80% (n=5/51) persons were killed due to ingestion of poisonous food (Fig. 4).

Fig. 1: Gender wise distribution of exhumated subjects (n=56)

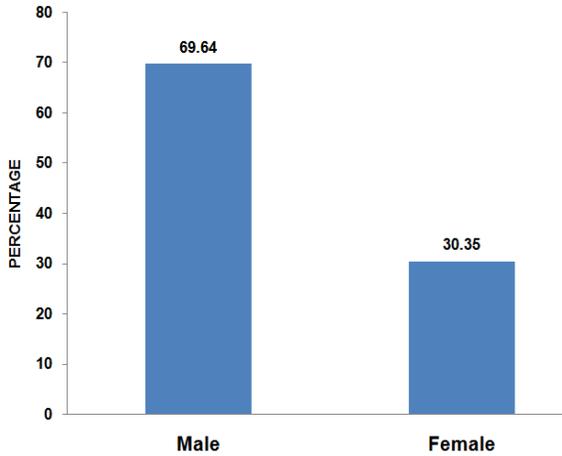


Fig. 2: Suspected reasons by the family for exhumation (n=56)

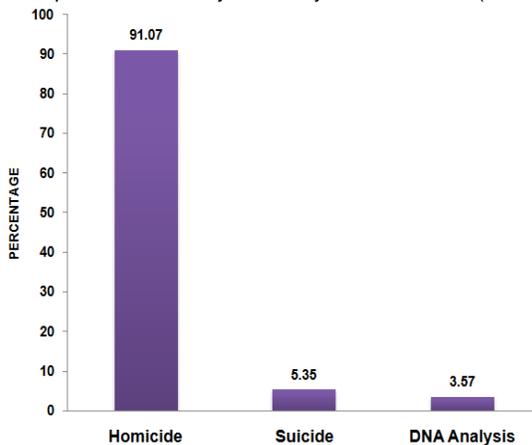


Fig. 3: Overall %age of positive vs negative exhumations (n=56)

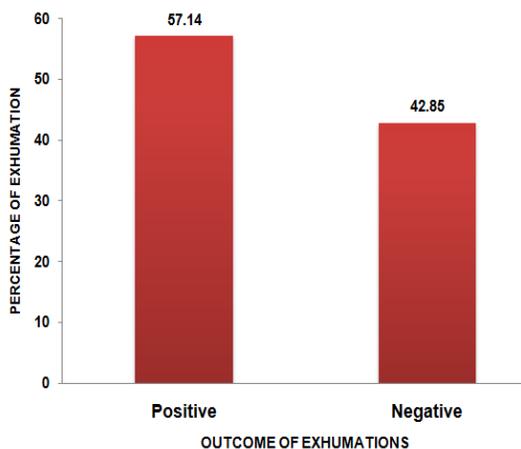
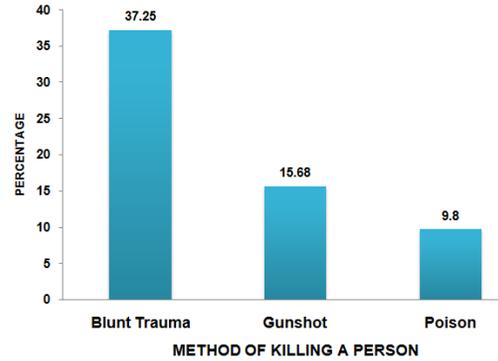


Fig. 4: Method through which homicide was performed among positive cases (n=32)



### DISCUSSION

Exhumation is generally considered as insulting and socially unaccepted procedure by most cultures but a lawful disposal of human dead body is only possible after establishment of proper and valid cause of death. If the cause is obscure, autopsy is the only mean of search. Inadequacy and unavailability of health care facility often makes this situation more complicated in developing countries where many deaths remain undiagnosed. Sometimes these dead bodies are taken out from graves for the purpose of establishing a cause of death and/or solving medicolegal cases.<sup>8</sup>

Based on such crucial analysis and lack of data from national and international regions we have conducted this study to determine how many of the requested exhumations were positive based on the allegations imposed by the deceased family. The most common request for exhumation was based on the suspicion that their family member was killed (n=51, 91.07%) not died due to natural death. While national studies conducted have evaluated the cause of death determined in exhumation not a single study conducted both on national and international level in which investigators have evaluated the reasons of exhumations requested by the family member. While some of the international studies have done exhumations for the identification dead bodies requested by their family members.<sup>9</sup>

In our study, among all requests for exhumation, positive exhumation for homicide was 56.86% (n=29/51), positive exhumation for suicide was 100% (n=2/2), and positive exhumation for DNA analysis was 50% (n=1/2). A study conducted in Larkana District<sup>10</sup> has also shown homicide was the most common cause of death among exhumated deceased as in our study but their positive exhumations were only 42.85% which is quite lower than our study. However, they have not evaluated suicide and DNA analysis in their study because their study was limited to homicide.

In our study the most common mode of homicide was hitting a person with sharp instrument which is not the case in a study conducted by Humayun and colleagues<sup>10</sup> in their study firearm injury was the most common method of killing recruited after exhumation. The variation could be due to multiple reasons such as in our study exhumations were particularly requested by the family member on the

suspicion of homicide and suspicion is most likely developed when the physical examination could not reveal the cause of death and to some extent it is requested on the grounds of family property distribution issues but due to lack of data from national and international studies we cannot comment the actual reason.<sup>8,11</sup>The reason behind the limited data is obviously due to the nature of medicolegal case<sup>12-14</sup>but our study will definitely provide a key step towards in-depth analysis of such cases and initiating ground for larger scale studies.

## CONCLUSION

More positive exhumations comprises of >56% and most of them were requested by the family as a suspicion of homicide.

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