

Psychological autopsy: A valuable tool used on investigation of a drowning death in differentiation of the manner of drowning; accidental, suicidal and homicidal

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Introduction

Drowning and its related issues such as the prevalence and the manner of death varies among countries and even within the communities of the same country (1). The manner of death may remain undetermined even when the diagnosis of drowning is confirmed (1, 2). The commonest manner of death in drowning is accidental (3) and suicidal and homicidal drowning represent a smaller but a significant segment. Suicidal drowning accounts for 2.8 to 8.9% of all suicides in regions with easy access to water and certain individuals use weights to facilitate the process (4).

The psychological autopsy is a mental state examination of the deceased and is used as the method to determine the manner of death when it is unclear and it is a valuable tool on research of complicated suicides (3). It is being used for the evaluation of death by suicide to retrospectively identify any suicidal predictive and risk factors available at the time of event (6). The principle of psychological autopsy is based on the meticulous collection of data that are likely to help to reconstitute the psychosocial environment of individuals who have committed suicide, thus understand better the circumstances of their death. The procedure involves gathering information on a large number of parameters including details about the person's death, family background, social

context, life trajectory, social interaction, working conditions, physical/ mental health and history, previous suicidal behavior if any, negative elements in the person's life, contact if any with help line services before committing suicide and reaction of friends and relatives to the suicide (5).

This case report describes a postmortem examination of a body recovered from water where the psychological autopsy was a valuable tool in determining the manner of death.

Case presentation

A body of a 67-yrs-old monk who was residing in a forest hermitage located on a small island surrounded by a lagoon was found floating on the lagoon. The personnel fiber boat which he used to reach the mainland regularly was floating close to the bank of the main island. According to the fellow monks, he was a very good swimmer and used to take long swims in the lagoon.

The crime scene examination of the locus including his cottage and the surrounding yard and other areas on the island was done by a team of forensic pathologists, forensic psychiatrist, government criminal investigation officers, and the officers from the government analyst department several times. The cottage was clean, tidy and without any disturbances (Figure 1).

The moderately decomposed body with generalised swelling and discoloration (Figure 2) was clad in a cloak. Two nylon cords which were around 4 feet long each were knotted separately around each ankle. The other free ends were knotted around 5 kg pieces of concrete bricks each (Figure 3)



Figure 1: Clean and tidy cottage of the deceased



Figure 2: Decomposed body



Figure 3: Cords around the ankles and bricks attached to them

The internal examination revealed voluminous, boggy lungs which were overlapping the medial edges covering the pericardium. The macroscopic examination and the histopathology of lung tissues revealed water snail shell fragments and water weeds in the terminal respiratory passages and alveoli. The examination of the fiber boat by a mechanic revealed absence of any mechanical defaults.

No diatoms were present in the bone marrow but were present in the water sample obtained from the lagoon and the toxicology screening was negative. Following macroscopical and histopathological examinations, the cause of death was concluded as drowning.

The nylon cords with intact knots and the samples of codes with knots which were recovered from the hermitage (Figure 4) were sent to the government analysts department for comparison. The expert concluded that all the knots have similar peculiar patterns indicating it was done by the same person.

The forensic psychiatric team visited the scene and surrounding locus and gathered a large amount of information from the documents recovered from scene which includes personnel diary, notes and sketches made by the deceased (Figure 5) and the music the deceased used to listen. They have interviewed several people including the fellow monks, people in the main island with whom he associated, to study the lifestyle of the deceased. The team has obtained information from the collateral sources such as personnel writing of the monk including the diary entries and letters. The team has observed that the deceased had led a secluded life and had minimal social contacts. He was disturbed and had arguments with the fishermen in the lagoon and the construction workers in the island. He was very worried about cutting trees and disturbing the nature in the island. Considering the findings of the postmortem with absence of any injuries suggestive of violence, fact that there was no evidence of disturbance at the scene and the psychological autopsy report, it was concluded that the manner of death was more likely suicide, which is impulsive in nature than the homicide.



Figure 4: Cords with peculiar knots observed from the scene

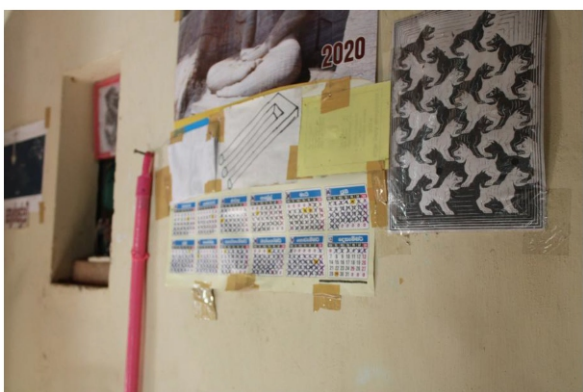


Figure 5: Notes and sketches found on the wall of the cottage

Discussion

The diagnosis of drowning as a cause of death requires a full autopsy to identify the features of immersion, to exclude other causes, interpretation of results in the context of the history, death circumstances and investigation results. In this case the cause for the death was concluded as drowning, considering the death circumstances, positive features of immersion: emphysematous lungs with presence of water snail shell fragments in terminal respiratory tract and by exclusion of injuries, absence of evidence of natural illnesses and the negative toxicology results. The diatom test which was negative in this case is earlier considered as a very useful microbiological approach in concluding death by drowning, but its reliability remains controversial as it has not proven useful in the majority of forensic drowning cases (3,7,8).

The determination of the manner of death was the major challenge in the medico-legal investigation of this death. A substantial number of drowning deaths are accidental in nature (8) but augmented drowning by using weights to enhance submersion was extremely useful support at the scene to exclude accident in this case. Weight assisted drowning is not a common method of suicide and according to a study on drowning 3% of the 116 suicidal drowning deaths had utilized weights to assist in their submersion and the technique was utilized predominantly by older males (9).

The coordinated effects of multiple agencies which included forensic psychiatrist, law enforcement, forensic scientists were extremely useful at various stages in determining the manner of this death.

Psychological autopsy, which is one of the most important research tools on completed suicides (5) was performed by the forensic psychiatrist. The forensic psychiatrist concluded that the manner of death seems more likely suicidal than homicidal and the underlying cause for suicide was impulsive. Furthermore, the suicidal manner was supported by the report of the expert who examined the pattern of the fixed knots.

This case report illustrates the importance of coordinated efforts and expertise of multiple agencies when dealing with medico-legal investigation of deaths and also the use of the psychological autopsy as a tool in determining the manner of death.

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