

Changing trends in tribal fights in the highlands of Papua New Guinea: a five-year review

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SUMMARY

Tribal warfare is a way of life in the highlands of Papua New Guinea. In earlier times direct confrontation with bushknives and axes, and shooting with bows and arrows were common. In recent years there have not been as many instances of direct confrontation with bushknives and axes, but the use of bows and arrows is on the rise. Since 1993, guns have been increasingly used, with devastating results. In 1993, 18 deaths were reported from tribal warfare in one area of the Southern Highlands Province, especially from gunshots, while in 1994, 24 deaths were reported from another area. A five-year review of tribal fight admissions to Mendi Hospital, from 1990 to 1994, showed an increase in the number and proportion of gunshot wounds; there were none in 1990-1992 but they constituted 18% of tribal fight injuries in 1993 and 33% in 1994.

Introduction

The Southern Highlands Province has a population of 375 000. The people live in small villages scattered on the rugged terrain of the province, which ranges between altitudes of 2500 and 7500 feet (760 to 2300 m) above sea level. Road access to many villages does not exist, and some remote villagers may have to walk hours or days to reach a road with a public motor vehicle (PMV), an aid post or a health centre. An average village may have a population of 100-400 people. Villagers live in small 'kunai' houses (houses thatched with 'kunai' grass). In some villages these houses are grouped around a courtyard while in others the houses are detached and surrounded by a small farm of gardens growing 'kaukau' (sweet potatoes) and other vegetables such as corn, beans and 'kumu' (green leafy vegetables).

Each house has a central fireplace where a fire burns throughout the night to enable its occupants to escape the cold (2-10°C). People sleep around the fireplaces, which do not have any effective fireguards, and toddlers frequently suffer burns when they crawl into the fires during the night. When the fire is lit, the house is filled with smoke, as there is no chimney or other means for smoke to escape,

except slowly through the roof. This results in a high incidence of chronic obstructive airway disease. The idea of modern smoke-free houses is yet to become popular in the villages. The wooden arrows used for tribal fights are kept in the smoke for a long time, so that they become hard and black.

There are no tribes in Papua New Guinea. There are linguistic groups (over 800 in a total population of 4 million), which vary in size from a hundred to a quarter of a million speakers, but they have no political structure. The traditional political structure is based on the clan and the village. Conflict therefore arises between clans and alliances of clans, and the warfare used to resolve — or maintain — this conflict is properly called clan warfare. However, the terms 'tribal fighting' and 'tribal warfare' are so enshrined in popular speech, especially in the medical context, that I shall continue to use them in this paper.

Traditional tribal fights

Tribal warfare may start for many reasons, the most common being land disputes. As the population increases there is an increasing need for a larger area of land for cultivation. This can lead to a tribal fight as people wish to

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occupy the land which was lost during a previous tribal fight or to occupy new land. Failure to settle a compensation claim may trigger a tribal fight. Claims are made after theft, rape, murder or other assaults. Sometimes tribal fights may continue for years, when a negotiated settlement is not reached.

Once settlement is not possible, both sides prepare themselves for warfare. The village leaders contact other friendly villages for help and support. Large-scale preparations take place, with the collection of weapons such as bows, arrows and shields, and in recent times firearms and ammunition. During a tribal fight, it is common practice to burn houses, schools, hospitals and farms in the enemy territory. Sometimes the people expand their agricultural produce, when a prolonged period of fighting is imminent, so as to maintain a consistent food supply.

In the Mendi area, if the opposing clans are related by marriage and a couple has only one son, he is expected to fight for his mother's clan (women are never involved in the fighting). If the couple has more than one son, they are divided into two groups, one fighting for the father's clan and the other for the mother's clan. The brothers or uncles or nephews do not confront each other in battle, but give way to each other in response to various signals and signs.

The two enemy clans come to the battlefield, yelling and firing projectiles. One bow and arrow is kept in hand for shooting, while a quiver full of arrows is kept at the back and a bushknife, or axe, at the side. The wounded warriors are taken away by their clan members and treated in their village or transferred to hospital. If the warriors are close enough to each other, the bushknife or axe is used in hand-to-hand combat. There have been many cases of enemies being chopped into pieces. In recent times, however, this nature of injury has not been common.

Guerrilla warfare techniques are also put to use in tribal warfare. The warriors hide in the bush and ambush enemies as they pass. Guns are widely used now, but explosives are yet to be employed.

Spying on the enemy clan is also a common practice, usually by young adults, who climb tall trees and observe the movements of the enemy. In a recent tribal fight, a sixteen-year-old boy was shot down from a tree as he was spying on his enemies.

While fighting is going on, the village leaders negotiate with each other, standing on two hillsides and shouting at the opposition the number of casualties and the possibility of settlement. If a settlement is reached, that will end the tribal fight.

Once the fight ends, the clan will have to compensate the helping villages for their deaths and injuries sustained during the fight. Compensation is given in the form of money or pigs (which are valued at about K500). The amount of compensation varies according to the nature of the injury and status of the injured or deceased. Once the compensation payments for helping clans are settled, the leaders start to settle the problem of the fighting clans. A thorough investigation is carried out by both clans, to find out which clan is at fault for the fight. Once this is confirmed, the clan at fault has to compensate the amount the other clan had to spend for the fight. There is no compensation for deaths and injuries as usually these are almost equal on either side.

Materials and methods

All inpatient admission charts for the 5 years 1990 to 1994 were reviewed. During this period, it was noted that there was a remarkable trend of change in the use of weapons in tribal warfare. Different village leaders and warriors were interviewed to investigate the organization of tribal warfare.

Results

21-26% of trauma admissions to Mendi Hospital in the years 1990 to 1994 were attributed to tribal fights, with the exception of 1992, when they contributed only 8% (Table 1). Up to 1992, only bows and arrows were used for shooting in tribal warfare, but during 1993 guns were introduced. Gunshot injuries constituted 18% of tribal fight injuries in 1993 and 33% in 1994.

Of the yearly tribal fight injuries 11% to 23% were injuries to the head and neck, 11% to

TABLE 1

THE PROPORTION OF TRAUMA CAUSED BY TRIBAL FIGHTING, BY YEAR, MENDI HOSPITAL, 1990-1994

| Year | Total trauma cases admitted | Admissions from tribal fighting (TF) | TF as % of all trauma cases | Arrow wounds | Arrow wounds as % of all TF | Gunshot wounds | Gunshot wounds as % of all TF |
|------|-----------------------------|--------------------------------------|-----------------------------|--------------|-----------------------------|----------------|-------------------------------|
| 1990 | 392 | 100 | 25.5% | 100 | 100% | - | 0% |
| 1991 | 414 | 90 | 21.7% | 90 | 100% | - | 0% |
| 1992 | 430 | 35 | 8.1% | 35 | 100% | - | 0% |
| 1993 | 454 | 108 | 23.8% | 89 | 82.4% | 19 | 17.6% |
| 1994 | 592 | 125 | 21.1% | 84 | 67.2% | 41 | 32.8% |

TABLE 2

THE SITE OF TRIBAL FIGHT INJURIES, BY YEAR, MENDI HOSPITAL, 1990-1994

| Year | Head and neck | Chest | Abdomen | Fractures and dislocations | Limb soft tissue injuries |
|------|---------------|------------|------------|----------------------------|---------------------------|
| 1990 | 16 (16.0%) | 28 (28.0%) | 23 (23.0%) | - | 33 (33.0%) |
| 1991 | 18 (20.0%) | 20 (22.2%) | 10 (11.1%) | - | 42 (46.7%) |
| 1992 | 4 (11.4%) | 12 (34.3%) | 7 (20.0%) | - | 12 (34.3%) |
| 1993 | 19 (17.6%) | 27 (25.0%) | 15 (13.9%) | 2 (1.9%) | 45 (41.7%) |
| 1994 | 29 (23.2%) | 33 (26.4%) | 16 (12.8%) | 6 (4.8%) | 41 (32.8%) |

TABLE 3

SURGERY REQUIRED FOR TRIBAL FIGHT INJURIES, BY YEAR, MENDI HOSPITAL, 1990-1994

| Operation | Year | | | | |
|----------------------------|------|------|------|------|------|
| | 1990 | 1991 | 1992 | 1993 | 1994 |
| Exploration | 50 | 54 | 21 | 42 | 54 |
| I & D/debridement | 1 | - | 1 | 6 | 7 |
| Suturing | - | - | - | 1 | 1 |
| Aspiration | - | - | - | 3 | 2 |
| UWSD | 5 | 1 | 1 | 3 | 2 |
| Thoracotomy | 2 | 1 | 3 | 4 | 2 |
| Laparotomy | 4 | 1 | - | 3 | 5 |
| Repair of artery | - | - | - | 1 | 1 |
| Open reduction of fracture | - | - | - | - | 1 |

I&D: incision and drainage

UWSD: under-water-seal drainage

23% were abdominal injuries, 22% to 34% were chest injuries and 33% to 47% were limb injuries. Fractures of limb bones were seen only after the introduction of guns (Table 2).

Table 3 shows the surgical interventions required for tribal fight injuries. Exploration for removal of arrows was the most common operation conducted, which was followed by debridement, laparotomies, under-water-seal drainage and thoracotomies, mainly for decortication or removal of arrows.

In 1990, one patient who had an arrow to the abdomen had a laparotomy and later died of septicaemia. Three patients were referred to the base hospital in 1991 and one in 1992. One patient died after thoracotomy in 1992. One patient who had an arrow to the myocardium with a pyopericardium died of septicaemia after thoracotomy in 1993. One patient who had a compound fracture of the radius and ulna died of septicaemia in 1994.

Discussion

Tribal fights remain one of the major causes of hospital admission in the highlands. More than 20% of all trauma admissions to Mendi Hospital from 1990 to 1994 were after tribal fights. A retained piece of broken arrow, as also described by Fingleton (1), was the most common complaint. Some patients presented with infected 'bush thoracotomy' or other 'bush surgeries'. Traditionally, people believe that bad blood is collected in the body, especially in the chest, after an arrow wound. Unless this blood is drained it may cause harm to patients. So experienced 'bush surgeons' make an incision in the body with the sharp edge of a bamboo cane. Once some blood comes out, the wound is packed with leaves, which results in severe infection and, nowadays, referral to a hospital.

The number of admissions may vary from year to year, as the number of tribal fights varies; in 1992, for example, there were only 35 admissions (8% of trauma cases) (Table 1).

As explained by Peter Sharp (2), direct confrontation with hand-held weapons is not so common nowadays. Such attacks usually occur after the victim is injured by arrows or firearms

and in most cases result in the death of the victim.

The introduction of guns in tribal fights in 1993 has led to a very high mortality. Home-made guns as well as semi-automatic weapons are now available for use in tribal warfare. In 1993, 18 deaths were reported from two opposing clans where guns were used and in 1994, 24 deaths were reported from another area. When fighting with arrows occurs, the majority of the injuries sustained are to the head, neck and limbs, while other areas are protected by shields. No specific areas are protected from gunshots and injuries are dispersed fairly evenly throughout the body. Though explosives have not yet been employed, it may be of concern in the near future since more and more sophisticated weapons are being discovered in the possession of local communities.

Tribal fights cause a considerable financial burden to the already strained health budget. They also result in the death of young, healthy men who are the workforce of the nation. The financial loss is augmented by the destruction of crops, houses, schools, aid posts, hospitals and other public institutions.

Conclusions and recommendations

Tribal warfare causes considerable morbidity and mortality along with financial losses. The prevention of such conflicts should be vigorously encouraged by the authorities.

Laws to control firearms and for land registration should be introduced so as to establish boundaries and ownership to individuals or clans. In addition, dispute settlement in courts, as opposed to the battlefield, should be encouraged. Introduction of these laws and a policy to carry them out by all levels of authority will result in a decline in the number of tribal fights and a reduction in the casualties involved.

REFERENCES

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