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REASONS FOR NEGLECTED ORTHOPAEDIC CASES IN RURAL/ SEMI URBAN POPULATION OF DEVELOPING COUNTRIES LIKE INDIA

Orthopaedics

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ABSTRACT

Neglected musculoskeletal trauma is one where there has been delay or lack of proper treatment from the time of the original injury, results in disability and morbidity. Neglected musculoskeletal injuries are thus untreated injuries due to one or other reasons. In developed countries neglected musculoskeletal injuries are less frequent except missed injuries of the hip and spine reported in some poly-trauma patients. Whereas in India 29% patients with fractures and dislocation in a teaching hospital had 50% neglected musculoskeletal injuries. A lot has been discussed about the neglected orthopedic trauma, but the published literature on the causes of neglected musculoskeletal trauma is sparse. Hence, current study was undertaken to highlight the causes of neglected musculoskeletal cases in developing countries like India.

KEYWORDS

INTRODUCTION

There is rapidly growing burden of trauma worldwide, in a wide spectrum of socioeconomic societies and a complex heterogeneous health delivery infrastructures. Injuries are major cause of disability and mortality globally. Mortality rates from injuries are higher in low and middle income countries compared with high income countries due to increased use of motorized transport and less developed roads and trauma care system. There is a mixture of great contrast with most advanced corporate hospital of international repute and poorest of the health unit with no medical facility. The injuries may remain neglected as a large section of population may not have an access to modern healthcare either due to lack of education or because of high cast of treatment and the non-availability of transportation to reach the required place in right time. The suboptimal conditions in the management musculoskeletal injuries either due to lack of proper training or infrastructures add to the rate of avoidable morbidity and disability.

Although no consensus can be found in the literature regarding a universal, exact definition or duration of an untreated injury to be termed as neglected. The duration is variable for different regions of the body. Hassan [1] was of the opinion that in case of cervical spine injury if the time period between the injury and correct diagnosis is more than three weeks the cervical spine injury is neglected. Senguptua [2] called neglected injury to any spinal cord injury which is not treated on time but lately and with limited treatment options. Paediatric lateral condyle fractures are labelled neglected when presented after three weeks either due to misdiagnosis (17% of cases) or late presentation [3-5]. Acetabular fractures are considered neglected if not treated for more than three weeks [6]. For Monteggia fracture dislocation the cut off period is 4 weeks [7]. A shoulder dislocation that has not been diagnosed for 3 to 4 weeks is termed neglected or chronic dislocation [8, 9]. A posteriorly dislocated hip is difficult to reduce closely under general anaesthesia after 2 to 4 weeks and is considered neglected [10, 11].

In developed countries neglected injuries are usually considered as those injuries which are missed at initial presentation whereas in developing countries it includes both missed injuries as well as injuries presented late and without any treatment or lack comprehensive treatment [12].Some studies referred neglected injuries to unintentional injuries reported in children in relation to child abuse [13].

A neglected fracture neck of femur is arbitrarily defined as a fracture that was not operated in the first 3 weeks from the time of the original injury. The patients with neglected fracture neck of femur are at a risk of developing nonunion, avascular necrosis, coxa vara, secondary osteoarthritis, muscular contractures, limb length deformities, gait problems, and a painful hip. Children in addition develop premature epiphyseal closure. These patients present with moderate-to-severe pain in the groin and front of thigh, walk with a trendelenburg gait, and following surgery, if the symptoms continue beyond 3 months, may develop nonunion.

Transscaphoid perilunate dislocations are rare injuries. It is estimated that upto 25% of these injuries are diagnosed late [14]. This percentage is still higher in developing countries due to lack of awareness and facilities for diagnosis and treatment. Once ignored, late reduction is not possible and needs extensive dissection. Treatment of neglected injuries carries a poorer prognosis as compared to fresh injuries [15, 16]. Late reduction of perilunate dislocations is difficult and after 3 months salvage procedures such as proximal row carpectomy, excision of the lunate or wrist arthrodesis have been recommended [17]. Most of the patients treated with these methods do not achieve good functional outcomes and have limitations of activities due to reduced range of motion, pain, and loss of grip strength. Treatment of these neglected injuries with open reduction and internal fixation would theoretically give better functional results as compared to salvage procedures [14, 16, 18].

Other commonly neglected musculoskeletal injuries are paediatric supracondylar fractures, elbow dislocation, Monteggia fracture dislocation, DDH, tendon and nerve injuries and stiff elbow resulting from excessive rubbing and manipulation of bonesetter [19]. A neglected clubfoot is usually presented at adolescent age and resistant to conventional techniques and treated with Ilizarove [20]. Neglected spinal injuries with or without neurological compromise constitute 4 to 30% [12]. Soft tissues around the neglected fractures and dislocations are contracted and the fractures lack healing potential. Angular and rotatory deformities are common due to malunited fractures and a child suffers growth retardation [19, 21].

Treatment of neglected musculoskeletal trauma is rarely reported in an organized and persistent manner by most well reputed international indexed journals except for publication of few individual case reports and personal experience of some surgeons [21].

REASONS

India is a second most populous country in the world with average life expectancy of 67 years. About 30% population of India is below the poverty line. India is the unique land of contrasts inhabiting most affluent to the poorest of the poor. Developing countries like India

faces numerous socioeconomic challenges, ranging from poverty and unemployment to social injustices. Some of the challenges faced by rural health practitioners are also encountered by health practitioners in urban areas, but the rural context increases these challenges [22], often leading to social neglect of those areas that are regarded as the 'rural of the rural'.

Lack of awareness/ Illiteracy:

- Remote medical facilities: These communities continue to have poor access to clinics and hospitals for basic services, and most importantly, very limited access to tertiary services. Healthcare service delivery in rural areas is complex, with multiple challenges. The rural setting is characterized by availability of only a few health facilities, few health practitioners and lack of resources, all factors that compromise healthcare delivery.

Local customs and old tradition belief:

- Lack of infrastructure: Due to scarcity of the hospital settings, the patients in the rural areas do not get primary care in an emergent situation. There is a huge unmet need of surgical facilities. The patient referral system does not exist; as a result the family has to plan out the access to treatment facilities without any guidance. The diagnosis is delayed in nonemergent cases, hence by the time they get treatment they are already complicated, which requires the expertise of tertiary care centers. The operating facilities in primary health centers are suboptimal with non-standardized implants and suboptimal theater conditions. As a result, disastrous complications are observed and tertiary care hospitals are over-burdened by the patients needing treatment for preventable complications of a simple clinical problem.
- Absence of minimum standard orthopaedic care: There is a huge variation in quality of treatment for an identical clinical problem throughout the country [23].
- Orthopaedics training and services are working at crossroads [24]: The orthopedic education is not tailored to our need. As a result the trained surgeons are not able to provide evidence based treatment to the clinical problems unique to our land in available infrastructure.
- Poor surgeon patient ratio: There are 13000 orthopedic surgeons registered with IOA while there may be another 13,000 which are not a member of IOA. Hence, approximately 26,000 orthopedic surgeons are available to cater about 1250 million populations, i.e. one surgeon to 48,100 populations. The surgeons are concentrated in metropolitan and big cities. The orthopaedic surgeon population ratio gets worse in rural India which inhabitate 72% of total population [23].
- Poorly trained first responder to musculoskeletal emergencies: The MBBS graduates are the first responder to musculoskeletal emergencies in rural and far of places. MBBS doctors (basic doctor) are not being adequately trained to provide care for fracture and musculoskeletally injured patients. He should be well versed in identifying the orthopedic clinical problems, providing the first aid in the form of splintage, analgesia, executing the triage in case of disasters, and identifying the institution where the patient can get specialist attention.
- Lack of funds/ Poor follow-up: Most rural communities have poor access to health facilities owing to distance or lack of financial resources for transportation. Many people who live in rural areas are unemployed, increasing the difficulty of accessing healthcare. Health facilities in rural areas are generally set up specifically to provide basic primary healthcare [25]. Some of the health conditions faced by rural communities are similar to those in urban areas, and complicated cases require treatment at tertiary facilities.
- Denial due to lack of health facility:

DISCUSION

Musculoskeletal injuries constitute a large proportion of global burden of trauma. Lack of proper treatment of musculoskeletal trauma results in disability and morbidity [21], In developing countries patients with musculoskeletal trauma usually do not present to hospital on time due to lack of transportation, poverty and ignorance. Furthermore many government hospitals do not have adequate infrastructure and trained staff resulting in delayed diagnosis or suboptimal treatment of these injuries [26]. Due to high influx of patients and constrained resources in state-owned hospitals of our country patients had to wait for their turn for surgery which cause frustration and anger amongst these patients and most of them leave hospital without definitive treatment and unfortunately do not get effective alternative treatment outside. Poverty and superstitious believes are a contributing factor for consulting bonesetters and improper treatment [19]. Neglected musculoskeletal injuries are thus untreated injuries due to one or other reasons.

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Treatment of neglected musculoskeletal trauma is rarely reported in an organized and persistent manner by most well reputed international indexed journals except for publication of few, individual case reports and personal experience of some surgeons.1 Moreover one cannot find detailed chapters on neglected musculoskeletal trauma in standard Orthopaedic text books. It is unfortunate that Orthopaedic literature has mainly focused on treating fresh musculoskeletal trauma and neglected musculoskeletal trauma is in fact neglected. The indexed journals must publish articles on neglected musculoskeletal trauma as these journals are readily available to Orthopaedic surgeons of the developing countries. A global debate of neglected musculoskeletal trauma through conferences and symposia would not only acknowledge that neglected trauma is not an issue of the developing countries but an issue of humanity and it will also help to evolve better treatment options.

The commonest reason for any neglected case is either a delay in diagnosis or treatment, or an operation or procedure not being carried out to a sufficiently high standard. The causes of neglect leading to delayed presentation were low socioeconomic status (poverty), unawareness (Illiteracy), lack of access to health care facilities, initial visit to traditional bone setters and even misdiagnosis at reputed hospitals by qualified orthopedic surgeons. After discussing the causes and epidemiology of neglected bone and soft tissue neoplasms, it is worthwhile to discuss the difficult aspect of management. By and large, it carry poor prognosis with high morbidity and mortality, their neglect or improper management makes the outcome even worse leading to loss of extremity and existence.

Access to modern medicine is still limited in developing countries like India. In rural areas, this is mostly because local medical facilities are lacking and travelling conditions are difficult due to poor roads and limited means of transportation. Access to healthcare is also a problem for the poor population, who may have difficulty paying hospital costs. Thus, fractures are often first treated by traditional bone-setters and healers whose methods are not adapted to the management of fractures. Most patients only consult an orthopedic surgeon after a certain delay presenting with severe injuries that are difficult to cure with the diagnostic and therapeutic means available in local facilities [27, 28].

There is an importance of good infrastructure, thorough clinical examination, appropriate and adequate radiography, competence in reading the results, and senior support to aid this process is supported by our findings. In addition, it is essential for departments to have a system in place so that these radiographs are reported and patients whose diagnosis has been missed can be recalled rapidly. This has been found not only to reduce the negligence, but also to be in the patient's best interests. Although, it may be argued that a report from an orthopaedic surgeon represents a view from a higher level of expertise, an orthopaedic opinion is usually required to assess the consequences of the missed or delayed diagnosis.

CONCLUSION

There is a significant shortage of specialised surgical units in rural areas, affecting rural patients in terms of prognosis, morbidity and mortality, resulting in neglected fractures. For healthcare to be effective, it should be widely available, of good quality and easily accessible. The international literature also reports negative trends in terms of rural healthcare, and difficulties in recruiting and retaining a skilled rural health workforce.

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