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**ABSTRACT... Objective:** To highlight, evaluate and analyze the complications associated with the treatment of fractures, joint dislocations and limb deformities by bone setters in a suburban population of district Kasoor. **Study Design:** Prospective descriptive study. **Setting:** This study was conducted at the Department of Trauma & Orthopaedics, Central Park Medical College based at Bhatti International Teaching Hospital, Kasoor. **Methods:** This was a six month prospective study involving eighty six (86) consecutive patients presenting with complications related to treatment of their musculoskeletal injuries by bone setters. **Results:** Eighty six patients with complications associated with previous treatment by bone setters were seen 62.7 (%) were male while 37.2 (%) were female. The age range from 4 months to 76 years (mean 34 years). Out of eighty six patients, 15(17.4 %) patients had non union, 21 (24.4%) had malunion, 9 (10.4%) had avascular necrosis, 15(17.4%) had chronic osteomyelitis, 4(4.6%) patients had gangrene, 8(9.3%) had contractures, 2(2.3%) had persistent dislocations, 4 (4.6%) had Leg ulcers and 8(9.3%) had wound infections. The major reasons for going to bone setters were the perceived low cost of treatment (45%), pressure and advice from the elders and friends (38%), fear of surgery (5%) and assumption of faster healing by the bone setters (12%). The methods used by the bone setters include splintage, bandage, plaster, stretching, massage and suturing. **Conclusions:** Bone setters create very difficult problems for orthopaedic surgeons. Many patients develop complications and lose their limbs due to inappropriate treatments. Awareness programmes regarding inadequate treatment given by bone setters are necessary and their Patronization should be discouraged to avoid these types of complications.

**Key words:** Bone Setters, Malunion, Osteomyelitis.

## INTRODUCTION

Bone setters are part of healthcare delivery in our country as well as in many developing countries of the world. Many people especially in the rural areas believe that they treat fractures better and they are indispensable<sup>1</sup>. The treatment methods adopted by these bone setters are not scientifically based and cause lot of complications which if not fatal, lead to deformity and in extreme cases may lead to loss of limb<sup>2</sup>. These complications bother the orthopaedic surgeons since they not only form a large number of cases seen by them but also create a lot of problems in terms of management<sup>3,4</sup>. The objective of our study was to evaluate and analyze the complications seen in patients previously treated by bone setters in the district of Kasur.

## MATERIAL & METHODS

This was a prospective study of all patients with musculoskeletal injury treated strictly by the bonesetters, before presenting to the Orthopaedic Department at BIT hospital Kasoor. All patients Who met the inclusion

criteria was included in the study. Cause-effect relationship was established by getting from the patients, a description of the original injury, the methods and materials used by the bone setters and performing a clinical and radiological assessment to Establish existence of a complication of treatment. During this six month period of study eighty. Six (86) patients with complications associated with previous treatment by bone setters were seen. 54 (62.7%) were male while 32(37.2%) were female. The age ranged from 4 months to 76 years (mean 34 years). The following data was obtained using a questionnaire; demography, details of initial injury, reasons for seeking bonesetter treatment, estimated cost of treatment by the bonesetter and disability of patient at presentation.

## RESULTS

A total of 86 cases with complications were seen. 46 (53%) of the patients belonged to poor class and 55(64%) were illiterate. The mechanisms of injury were road side accident 20(23.2%), falls 31(36.04%),

industrial hand injuries 12(13.95%) and farm injuries 23(26.74%). There were 56 (65.11%) patients with closed fractures, 16 (18.60%) patients with open fractures and 14 (16.27%) cases with soft tissue injuries only. The complications of the treatment by bonesetters are shown in table I. The bone setters treated the patients with a variety of methods often using a combination of methods. The most common methods were massage with and application of splints in 43% of patients while manipulations and splintage were done in 23% of cases. Some bonesetters even did suturing and gave intramuscular injections. 76 (88.37%) patients had X-rays with them when they visited the bonesetters. The reasons for patronizing the bone setters were mainly because of perceived cheapness (45%), pressure from family elders (38%), fear of surgery (5%) and ignorance (12%). We have not found the non availability of health services or distance to the hospital to be the influencing factor in seeking treatment from the bonesetters.

**Table-I. Type and frequency of complications due to treatment by bonesetters**

Complication	Number (%)
Non Union	15 (17.4%)
Mal Union	21 (24.4%)
Avascular Necrosis	9 (10.4%)
Chronic Osteomyelitis	15 (17.4%)
Gangrene	4 (4.6%)
Contractures	8 (9.3%)
Persistent Dislocations	2 (2.3%)
Leg Ulcers	4 (4.6%)
Wound infection	8 (9.3%)

## DISCUSSION

Treatment of musculoskeletal injuries by the bonesetters is widely practiced in many part of our country as well as in other developing countries of the world<sup>5,6</sup>. Majority of these complications are caused by the methods used in managing these musculoskeletal injuries. These methods include use of wooden sticks / wooden rulers wrapped around fracture fragments with consequent

tourniquet effect. Others include massaging and excessive traction with the possibility of heterotopic calcification, malunion & non union. There is also use of incantation and scarification which can cause infection. Usually these bonesetters have established their practices in small suburban areas or in the villages. Some of them even ask for x-rays of the effected area before their treatment. There is no doubt that the magnitude of the complications encountered following the treatment of relatively simple injuries by bonesetters are alarming<sup>7</sup>. A research study in Turkey revealed that people with no formal education consistently consulted bonesetters and rarely sought help from an orthopaedic specialist<sup>8</sup>. In our study we have found illiteracy and low socioeconomic condition as the main reason of being treated by the bonesetters. Secondly there is misconception in the community that if you consult the orthopaedic specialist you will be advised for the operative treatment. The irony of the matter is this that 65% of the cases had X-ray had taken for their musculoskeletal injuries prior to be treated by the bonesetters. It has also being observed that compound as well as intra articular fractures outcome was very poor as compared to simple fractures. The results of our study may be a tip of the iceberg as many of these patients never present to any hospital for help. Secondly the practice by bonesetters is present in other part of the country as well as in city of Lahore<sup>9</sup>. The result of this study serve as a reminder that treatment of musculoskeletal injuries by the bonesetters still remain a problem in orthopaedic practice. An understanding of the belief system of the patients and practice of the bonesetters is needed to curb this problem. The public is being deceived by the multiple payment options at the bonesetters. The influence of friends and family on the patient, cultural beliefs and unnecessary delays in government hospitals are valid factors that encourages patronage of bonesetters. Awareness programmes regarding inadequate treatment given by bone setters are necessary and their patronization should be discouraged to avoid these types of complications.

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Article received on: 02/11/2011

Accepted for Publication: 20/02/2012

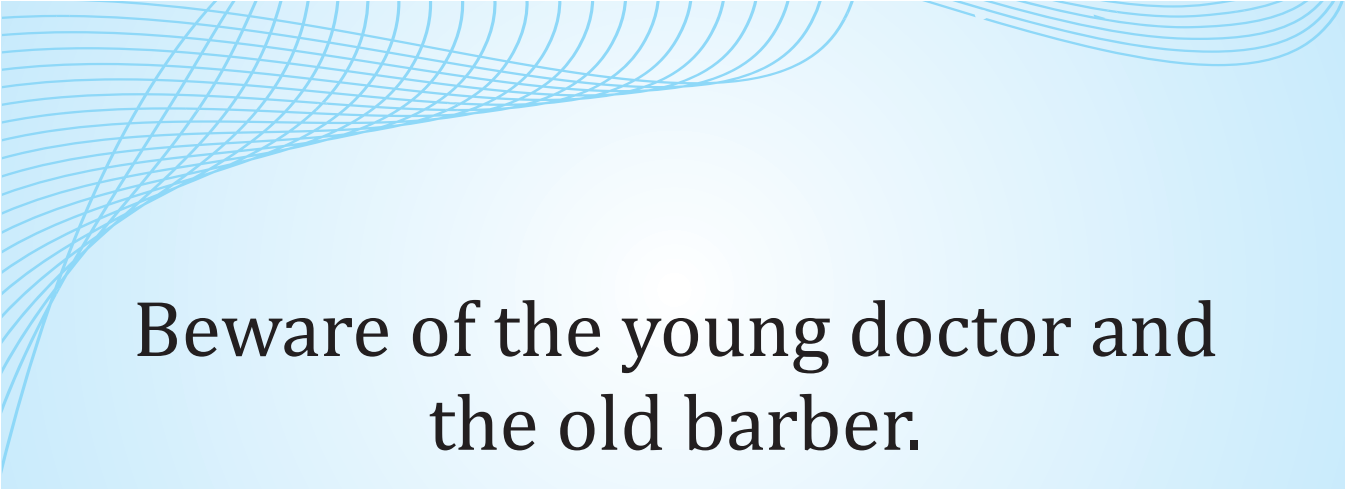
Received after proof reading: 00/00/0000

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**Article Citation:**

Dastgir N, Butt KK, Nabeel N. Musculoskeletal injuries.  
Professional Med J Aug 2012;19(4):446-448.



Beware of the young doctor and  
the old barber.

*Benjamin Franklin*

