Purpose:
To study the effectiveness of 90/90 interosseous wiring in fixation of transverse and short oblique metacarpal shaft fractures with early motion.

Patients and methods:
This is a prospective study conducted at an academic Level 1 Trauma Center from 2015 to 2017. The study included 20 patients (16 males and 4 females). The mean age was 27.3 years (range, 12 to 44 years). The dominant hand was affected in 10 cases and the non-dominant hand was affected in the other 10 cases. Regarding the fracture pattern, 17 were transverse while 3 were short oblique fractures. The mean follow-up period was 6 months (range, 4 to 8 months). Patients were assessed for union (clinically and radiographically), range of motion (total active motion [TAM] and total active flexion [TAF]), hand grip strength and patient-reported outcome using the quick-DASH (Disabilities of the Arm, Shoulder and Hand) questionnaire.

Surgical technique: (figures 1, 2)

Results:
All patients achieved union after a mean of 7 weeks (range, 6 to 8 weeks). The mean TAF was 246° (range, 150 to 260°) (figure 3). TAM was excellent in 13 digits and good in 7 digits (figure 4). The mean grip strength was 90.20% (range, 61.53% to 100%) of the unaffected side. The mean quick-DASH score was 2.72 (range, 0 to 20.45) (figures 5, 6).

Conclusion:
90/90 bicortical double loop interosseous wiring technique is an effective method of fixation that can be used alone for transverse and short oblique fractures of the metacarpals and can permit early hand mobilization postoperatively in a wrist splint for 2 weeks. Moreover, this technique is simple and cost-effective but we recommend further comparative studies with other rigid methods of fixation as miniplates.