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Farm hand tools injuries: A case study from northern India

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Abstract

Hand tools are commonly used on Indian farms. There are 800 million hand tools used on Indian farms by 260 million farm workers. This study was done in two phases. In the first phase, data on agricultural related injuries was collected from nine contiguous villages in a total population of 19,723 persons. In the second phase of study 21 more villages were added and population covered was 78,890. A total of 576 agricultural injuries were reported in Phase I, hand tools accounted for 332 (58%) of total agricultural injuries. In Phase II, 54 (19%) injuries were hand tool related out of total 282 agricultural injuries. Most of the injuries i.e. 98% and 91% of the hand tool injuries caused were AIS 1 (45% and 17% of the total AIS 1 injuries) in Phase I and II. Seventy percent of AIS1 hand tool injuries had a recovery time of more than 7 days in Phase I. In Phase II, all AIS 1 injuries took more than 7 days to recover. The mechanism of injuries was slippage of tool from hand or hitting a hard surface with impact type soil interactive tools (spade). The foot and legs were the most frequently injured body part in these tools. For harvesting tools (sickle), deep cuts of fingers and in weeding fork abrasions on under side of little finger because of ground contact were common injuries. For axe and sugar cane cutter, higher severity injuries were sustained on upper extremities. There are 1700 injuries related to hand tools per hundred thousand farm workers per year in rural India. Productivity was impaired to the tune of 24,000 days per hundred thousand population because of injuries caused by hand tools on these farms.

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1. Introduction

A large proportion of the work force in the world is involved in agriculture or related occupations (FAO Yearbook, 2006). In India, 260 million workers are associated with farm work (Census, 2001) constituting one fifth of the world's agricultural work force. There is paucity of reliable data on farm workers diseases and injuries in India because of low surveillance system. Gordon et al. (1962) indicated that the rate of disabling

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