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Navroop Kaur

Department of Family Resource Management, College of Home Science Punjab Agricultural University, Ludhiana, Punjab, India

Harpinder Kaur

Department of Family Resource Management, College of Home Science, Punjab Agricultural University, Ludhiana, Punjab, India

Sharanbir Kaur Bal

Department of Family Resource Management, College of Home Science, Punjab Agricultural University, Ludhiana, Punjab, India

Corresponding Author:

Navroop Kaur

Department of Family Resource Management, College of Home Science Punjab Agricultural University, Ludhiana, Punjab, India

Work related drudgery scores, body disorders and hazards experienced by female workers engaged in marigold cultivation

Navroop Kaur, Harpinder Kaur and Sharanbir Kaur Bal

Abstract

Marigold is the most commonly grown flower in Punjab. It is an annual flower plant and there is an intensive involvement of women in marigold cultivation. Women are engaged in very hard working operations i.e. transplanting, weeding, hoeing and harvesting; but the people rarely recognize the drudgery, body disorders and hazards involved in these activities. The purpose of this study was to assess the level of work related drudgery score, body disorders and hazards experienced by female farm workers engaged in marigold cultivation. The present study was carried out in the six marigold fields of Ludhiana district from month June - October. A total of 120 female workers were selected as respondents randomly. Mean score, mean rank, frequency and percentage were used to calculate the work related drudgery scores, body disorders and hazards experienced by female workers engaged in marigold cultivation and to find out the coping mechanisms used by respondents to treat their problems. The results showed that harvesting is considered as the most drudgery prone activity where women have to work in awkward posture. Body ache is the major work related body disorder felt by 81.67 per cent respondents and something stuck in eyes is major work related hazard experienced by 80.00 per cent respondents. Among coping mechanisms adopted by respondents to treat their problems it was found that large majority of respondents (77.34%) ignored the disorder.

Keywords: work related drudgery score, work related body disorders, hazards

1. Introduction

Agriculture is the backbone of Indian economy. Approximately two-third of Indian population lives in the villages and depends primarily on agriculture and other interconnected professions for their livelihood. Earlier, wheat and maize used to be the traditional crops but now the scenario has changed. Growing of flowers is an important component of diversification of agricultural cropping pattern. A great importance has been given to floriculture due to its multiple angles. It is important from economic, aesthetic and social point of view. It satisfies the needs of people and provides more employment. The profit per unit of land is much higher as compared to other agricultural activities and helps to earn more income in terms of foreign exchange. All this has forced farmers to move to this sector and there is an intensive involvement of women in flower cultivation. According to census of India 2011, the farm women constitute 42.00 percent of agricultural work force. Women connection to agriculture is an age old practice. But still there are very few machines to ease women's manual labour. Women are engaged in very hard working operations from transplanting, weeding, hoeing to harvesting; but people rarely recognize the drudgery involved in these activities.

Marigold is the most commonly grown flower in Punjab. It is an annual flower plant. Its harvesting is considered as the most drudgery prone activity where women have to work in awkward posture. They have to keep their posture in bending position for the harvesting of flower due to short size of plant. It leads them to severe pain in their neck, backbone, leg, thigh and feet etc. Women spends long hours with much labour in respective operations resulting in fatigue and drudgery (Srivastava 1985). Most of the work performed by female farm workers was carried out by age old and any available tools which are not women friendly causing fatigue, drudgery and ill health. In addition to this they suffer from various work related body disorders and hazards while marigold cultivation like body ache, swelling, slips, cut/wounds, something stuck in eyes, etc. It was found that men have adopted mechanized agriculture and women's work has remained predominantly manual. The root cause of women's suffering is ignorance, age old methods of doing the work, inappropriateness of the technology, attitudinal constraints such as innate conservatism and resistance to change.

Several studies on women in agriculture shows that women are generally engaged in tasks which are either not mechanized or least mechanized and involve a lot of drudgery at every phase. Therefore, the present study was undertaken with the objective to identify the work related drudgery scores, body disorders and hazards experienced by female workers engaged in marigold cultivation and to find out the coping mechanisms adopted by female workers to treat their problems.

2. Research Methods

The present study was carried out in the six marigold fields in Ludhiana district from month June - October. For carrying out the field survey, the information regarding the flower cultivators was procured from department of Floriculture and Landscaping, Punjab Agricultural University. The snowball method was also used to get information regarding flower cultivators. A total of 120 female workers were selected as respondents randomly. The total drudgery mean score was calculated for each activity by using scale given in Anonymous (2007-08) and then mean ranks were assigned to each activity. Work related body disorders and hazards were calculated by using frequency and percentage. Whereas, coping mechanisms adopted by respondents to treat their problems were calculated using percentage.

3. Research Findings and Discussion

3.1 Work related drudgery scores experienced by respondents

Table 1 and figure 1 displays work related drudgery scores experienced by respondents in different flower cultivation activities. The harvesting activity scored rank I and is considered as the most drudgery prone activity where women have to work in awkward posture. Similar results have been given by Kaur and Sharma (2014) that flower harvesting is one of the tedious activities and there is a great involvement of women in this activity. They usually do this task with drudgery prone method placing a huge demand on their time and energy. Whereas, transplanting, hoeing and removing weeds scored rank II, III and IV respectively. Women generally adopt squatting and bending posture while transplanting, hoeing, removing weeds and harvesting and maintain it for long hours, which cause musculoskeletal problems.

Table 1: Work related drudgery scores experienced by respondents

Activity	Mean score	Mean Rank
Harvesting	23.13	I
Transplanting	21.46	II
Hoeing	20.83	III
Removing weeds	19.32	IV

The total drudgery mean score was calculated for each activity by using scale given in Anonymous (2007-08). In this scale five parameters i.e. rating on work demand, rating on feeling of exhaustion, rating on posture assumed in work, perception on manual loads operative, rating on difficulty perception and rating on work load perception were used. Each of the five points (A to F) mentioned below were taken to get the mean score. After calculating the mean score for each activity, mean ranks were given to the activities according to their mean scores.

(A) **Rating on work demand:-** 5-very demanding, 4-Demanding, 3-Moderately demanding, 2-Less

demanding, 1-Very less demanding

(B) **Rating on feeling of exhaustion:** 5- Very less exhausted, 4-Exhausted, 3-Moderately exhausted, 2-Mildly exhausted, 1-Comfortable

(C) **Rating on posture assumed in work:** 5-Very painful, 4-Painful, 3-Moderate pain, 2-Low pain, 1-No pain

(D) **Perception on manual loads operative:** 5-Very heavy, 4-Heavy, 3-Moderately low, 2-Light loads, 1-No loads

(E) **Rating on difficulty perception:** 5-Very difficult, 4-Difficult, 3-Moderately difficult, 2-Easy, 1-Very easy

(F) **Rating on work load perception:** 5-Very heavy, 4-Heavy, 3-Moderately heavy, 2-Low, 1-Very low

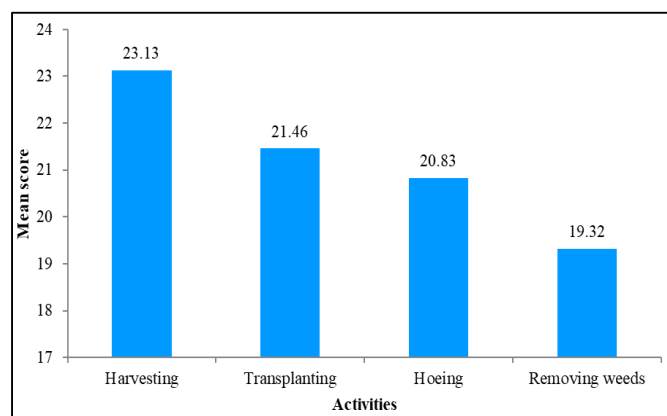


Fig 1: Work related drudgery scores experienced by respondents in different flower cultivation activities

3.2 Work related body disorders experienced by respondents

Data in Table 2 shows various work related body disorders faced by respondents. Body ache is the major work related body disorder felt by 81.67 per cent respondents followed by numbness/stiffness (51.67%), swelling (41.67%), itching (30.83%) and skin burning (17.50%).

Table 2: Work related body disorders experienced by respondents

Disorder	Frequency	Percentage (%)
Body ache	98	81.67
Numbness/stiffness	62	51.67
Swelling	50	41.67
Itching	37	30.83
Skin Burning	21	17.50

3.3 Work related hazards experienced by respondents

Various work related hazards experienced by respondents are mentioned in Table 3 which shows that something stuck in eyes is major work related hazard experienced by 80.00 per cent respondents followed by slips (45.83%), collision (36.67%), cuts/wounds (25.00%) and bites/stings (14.17%). Respondents experience slips as the grounds were muddy/slippery due to water in the field and they get cut/wounds mostly in their hands because they do not wear gloves while working.

Table 3: Work related hazards experienced by respondents

Hazards	Frequency	Percentage (%)
Something stuck in eyes	96	80.00
Slips	55	45.83
Collision	44	36.67
Cuts/ wounds	30	25.00
Bites/stings	17	14.17

4 Coping mechanism adopted by respondents to treat their problems

Table 4 and figure 2 shows various coping mechanism adopted by respondents to treat their problems. It shows that large majority of respondents (77.34%) ignored the disorder. Whereas, 62.19 per cent respondents took first aid kit whenever required. 59.67 per cent of respondents used household remedies to treat their problems at home only like drinking turmeric milk, applying nail paint or turmeric paste on cuts, etc. Medical treatment was taken by 56.46 per cent of respondents. Only 10-13 per cent of respondents modified work environment and underwent surgery.

Table 4: Coping mechanism adopted by respondents to treat their problems

Coping mechanism	Percentage (%)
Ignored the disorder	77.34
First aid taken	62.19
Used household remedies	59.67
Medical treatment taken	56.46
Modified work environment	12.63
Underwent surgery	10.43

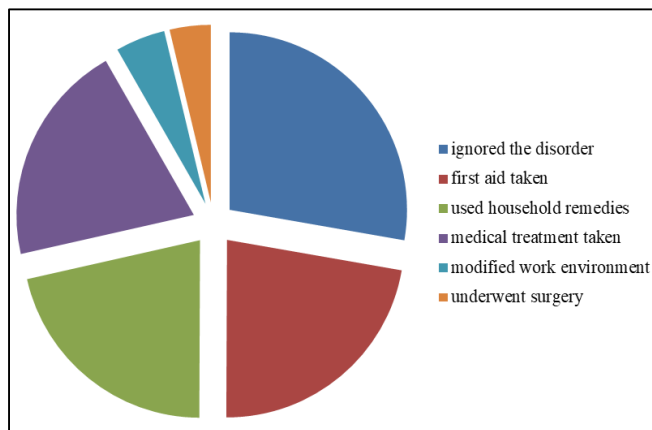


Fig 2: Coping mechanism adopted by respondents to treat their problems

5. Conclusion

To summarise it may be concluded that women play a vital role in marigold cultivation and while doing so they suffer from various work related drudgery scores, body disorders and hazards. They use various coping mechanisms to treat their problems. But there is a need to have national policy on occupational health in agriculture to empower farm women in reducing drudgery, increasing safety, productivity, efficiency and well-being of female farm workers. Women friendly technologies should be developed for drudgery reduction. More women oriented research in agriculture with particular reference to ergonomic design of women friendly tools is emphasized as women have different ergonomic characteristics than men.

6 Acknowledgement

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