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V DaivashiromaniKrishi Vigyan Kendra,
Kothagudem, Telangana, India**G Veeranna**Krishi Vigyan Kendra,
Kothagudem, Telangana, India**M Milcah Paul**Krishi Vigyan Kendra,
Kothagudem, Telangana, India**P Jagan Mohan Rao**Regional Agriculture Research
Station, Warangal, Telangana,
India**P Raghurami Reddy**Agricultural College, Palem,
Nagarkurnool. PJTSAU,
Hyderabad, Telangana, India

Assessment of knitted gloves work efficiency, comfortability and impact on combating occupational injuries in okra harvesting

V Daivashiromani, G Veeranna, M Milcah Paul, P Jagan Mohan Rao and P Raghurami Reddy

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Abstract

A study on knitted gloves usage in okra harvesting and their role in combating occupational injuries subjects was carried out in 10 different farmers fields were tested by 30 farm womens village of sujath nagar mandal in Bhadradi kothagudem district of Telangana ,India. From the first hand information, by conducting survey, primary data were collected from okra pluckers, cuts in hands, sever finger wounds, piercing of thorns and kellicks, etc. were found in okra harvestings .To overcome these difficulties present study was under taken to assessed against existing practice for its suitability, comfortability, cost effectiveness, reducing stress, cuts /rash/allergy and work efficiency by farm worker was found to be willingness, adaptability rate of the knitted gloves was good and reduced the drudgery and speeding up the activity due to comfort grip, increased additional okra picking quantity of 12.5 kg per day per women.

Keywords: Knitted gloves, occupational injuries and okra harvesting

Introduction

As agriculture being one major occupation in India, hence the largest number of workers, around 58.4 percent of the population is involved in Agricultural activities, Punam Rani, *et. al*, 2013 ^[2]. In India, around 75 percent of rural women are involved in agricultural activities like weeding, grading, threshing, winnowing, cleaning, harvesting, etc., (Singh Divya, Vinay Deepa. 2013) ^[3]. The fruit of bhendi habit of thorns piercing while pluck a fruit, okra harvesting is done mostly by farm women with bare hands, some of them wear rubber gloves. The major problems encountered by the okra pluckers deep cuts in hands, hindered, painning and severe finger wounds, with these problems farm women are not able to attend to their house hold chore, if attending with great difficulty they are able to do their house hold activities. This is the major limiting factor in okra pluck. To overcome this problem i.e protects hands and palm from the injuries caused during okra plucking and comfortable for working with good absorbency by wear hands knitted gloves (Padma and Khateerja sulthana, 2017) ^[1]. Knitted gloves with protective attribute must be compared bare hands or conventional practices expected hazards founds at the workplace. Available literature indicates that information on protect the hands and fingers injuries while area of okra harvesting is scanty. Hence, the study was conducted to assess the knitted and rubber gloves impact on cambating occupational injuries in okra pluck.

Materials and Methods

A Study on Knitted gloves usage in okra harvesting and their role in combating occupational injuries subjects was carried out in 10 different farmers fields were tested by 30 farm womens in koyagudem, uppurugudem, gopa thanda, patha anjana puram, narsimha sagar, chittiramavaram, sujatha nagar mandal, Bhadradi Kothagudem district of Telangana, India. subjects were selected and were checked occupational injuries levels faced by them through a questionnaire called the pre schedule questionnaire. General information like name, age, gender, location, years of work experience was recorded to know the problems, while doing farming activities in Okra fields. Pre schedule questionnaire was developed to know the problems encountered and to check the injuries level faced by farm workers while attending to

Corresponding Author:**V Daivashiromani**Krishi Vigyan Kendra,
Kothagudem, Telangana, India

okra plucking. After close vision and understanding farm workers difficulty while working in the fields through developing pre schedule questionnaire, knitted gloves work use efficiency, impact on combat drudgery, durability, comfort compared on a five quantum scale willingness rating Good (5), Average (4) Yes(3), No (2) and poor (1) with the relevant developed questionnaire weighted mean scores are calculated for each suitability variable with the control subject like the knitted gloves was assessed against rubber gloves.

Results and Discussion

Study subject was collected data on faced a problems in okra plucking the following problems were found to be prominent.

Regular Problems Faced in the Okra Pluck: There was sever problems faced by okra pluckers occupational injuries in the subjects showed (figure.1) that 100 percent had musculoskeletal pains; 80 percent had skin rashes/allergies; 70 percent had cuts/bruises; 40 percent had boils and 30had burning sensation in palms and fingers during the 2018. When data collected in 2019, 100 percent had skin rashes/allergies; 90 percent had musculoskeletal pains; 80 percent cuts/bruises; 60 percent had burning sensation and 30 percent had boils in palms and Fingers.

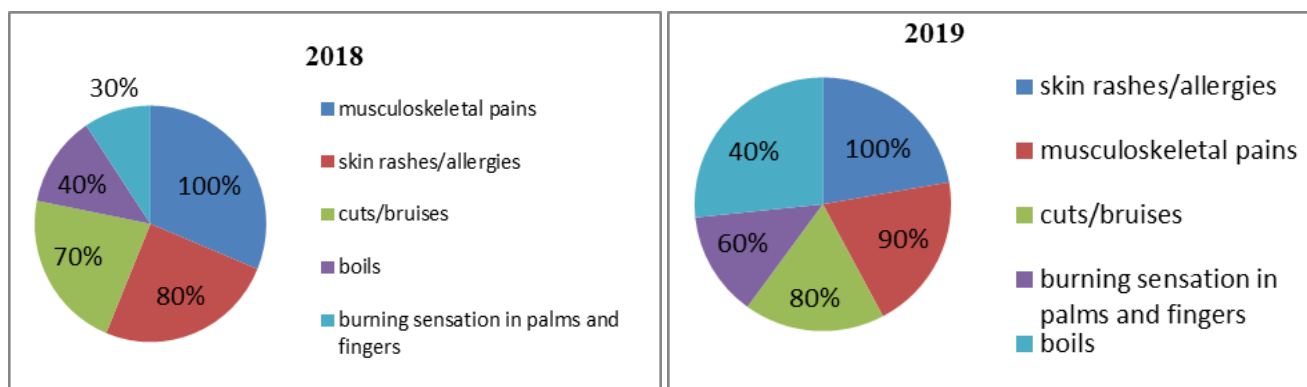


Fig 1: Work related injuries/problems Faced by the Respondents during 2018 and 2019

The data were collected on the basis of five quantum scale from 30 farm women okra pluckers with relevant developed questionnaire, to elicit information on comfortability, adaption feasibility, durability, cost effectiveness and work efficiency (%) and stress reduction (%). From the data compiled Weighted Mean Score (WMS) were depicted in the table 1. which revealed that knitted gloves has scored highest WMS (5.0) for its comfort (easy to wear/ drape, remove, grip/comfort) and durability, adoption have secured 4.90 and 4.98 respectively, where rubber gloves has scored comfort (2.15), durability(3.42), adoption(3.30) except easy to remove

which scored(4.75). Knitted gloves have scored highest WMS with 5.0 in the parameters like cost effectiveness, good rating and willingness. However, knitted gloves took little time for initially wearing but were accepted mainly due to for its intact grip, which make the worker tell light handed while working and allow the worker to work without affecting their work efficiency as well protecting the workers palm and finger, knitted gloves have got good response as protection for palm /finger cut resistance 80 percent and rash/allergy resistance 85 percent. Respond on stress reducing 65 percent and 75percent farm worker response without affecting their work efficiency.

Table 1: Comfort ability, Adoption Feasibility, Durability, Cost Effectiveness of the Hand Gloves Feedback given by the Okra Pluckers (WMS= Weighted Mean Scores N=30 100%)

S. no	Feed back assessment	Weighted Mean Scores (WMS)					
		Hand gloves					
		2018		2019		Pooled	
		knitted	Rubber	knitted	Rubber	knitted	Rubber
Comfort ability Assessment							
1	Easy to wear/drape	4.66	3.46	4.88	3.31	4.77	3.39
2	Easy to remove	5.00	4.90	5.00	4.60	5.00	4.75
3	Grip / comfort while wearing	5.00	2.4	5.00	1.90	5.00	2.15
Durability service ability							
4	Entire crop period	4.98	3.14	4.82	3.70	4.90	3.42
Adoption feasibility							
5	Willingness	4.95	3.26	5.0	3.34	4.98	3.30
	Yes						
6	No	2.0	4.86	2.00	4.98	2.0	4.92
7	Rating	5.00	2.00	5.00	1.93	5.0	1.97
	Good						
	Average						
	Poor						
8		1.64	4.83	1.89	4.56	1.77	4.70
9		1.00	5.00	1.00	5.00	1.0	5.00
10	Cost effectiveness	4.96	3.20	5.00	3.43	4.98	3.32
11	Work efficiency (percent)	70.0	30.0	80.0	20.0	75.0	25.0
12	Stress reducing (percent)	60.0	40.0	70.0	30.0	65.0	35.0
13	Cut resistance (percent)	80.0	20.0	80.0	20.0	80.0	20.0
14	Rash/allergy resistance	80.0	30.0	90.0	10.0	85.0	20.0

Estimation of Okra Picking Quantity: (kg per hr per women and kg per day per women) A women okra picking with knitted gloves was 17 kg per hr, 85 kg per day in 2018 and 21 kg per hr, 105 kg per day in 2019. whereas comparatively in rubber gloves hand wear was 15 kg per hr, 75 kg per day in 2018 and 18 kg per hr, 90 kg per day in 2019. On pooled mean basis maximum quantity of okra picking with knitted gloves hand wear was 19 kg per hr 95 kg per day and okra plucking with rubber gloves hand wear was 16.5 kg per hr 82.5 kg per day (Table.2). Okra pickers, picking with hand wear knitted gloves increased quantity 2.0 kg per hr per women and 10.0 kg per day per women in 2018 and 3.0 kg per hr per women, and 15.0 kg per day per women 2019. On pooled mean basis maximum increased okra quantity picking with knitted gloves was 2.5 kg per hr and 12.5 kg per day.

Economics

Farmer paid an amount of Rs.3.0 per kg picking okra in the experimental area. Okra pickers using knitted gloves who are earned an amount of was Rs. 51.0 per hr, and per day Rs.255.0 in 2018 and Rs.63.0 per hr and Rs.315.0 per day in 2019 respectively, in rubber gloves practice was Rs. 45.0 per hr, Rs. 225.0 per day in 2018 and Rs.54.0 per hr, Rs.270.0 per day in 2019. On pooled mean basis earned an amount of rupees with knitted gloves hand wear was Rs. 57.0 per hr Rs. 285.0 per day and rubber gloves hand wear was Rs. 49.5 per hr, Rs. 247.5 per day.

Additional earning with knitted gloves was Rs. 30.0 per day, Rs.900.0 in 30 working days in 2018 and Rs.45.0 per day, Rs.1350.0 in 30 working days in 2019. On pooled mean basis okra picking with knitted gloves getting additional earning was Rs.37.5 per day and Rs.1125.0 in 30 working days.

Table 2: Estimation of Okra Picking Quantity (kg) and Economics

S. no	Parameters	2018		2019		Pooled	
		knitted gloves	rubber gloves	knitted gloves	rubber gloves	knitted gloves	rubber gloves
1	Trial time (hr)	1.0	1.0	1.0	1.0	-	-
2	Okra picking quantity (kg)						
	a. kg per hr per women	17.0	15.0	21.0	18.0	19.0	16.5
	b. kg per day (5hrs)	85.0	75.0	105.0	90.0	95.0	82.5
3	Okra picking quantity (kg) deviation (+ or -)						
	a. kg per hr per women	+2.0	-	+3.0	-	+2.5	-
	b. kg per day (5hrs) per women	+10.0	-	+15.0	-	+12.5	-
4	Amount earning (Rs.) @kg okra picking Rs.3.0						
	a. In hour	51.0	45.0	63.0	54.0	57.0	49.5
	b. 5hrs per day	255.0	225.0	315.0	270.0	285.0	247.5
5	Additional amount earning (Rs.)						
	i. Rs. per day	+ 30.0	-	+ 45.0	-	37.5	-
	ii.30 working days in a season/year	+ 900.0	-	+ 1350.0	-	1125.0	-

*Note: 1. with rubber gloves okra picking practice per women per day an average 82.5 kg okra picking.

2. With knitted gloves okra picking practice per women per day an average 95.0 kg okra picking.

With knitted gloves hand wear okra harvesters in additional okra quantity picking of 12.5 kg per day women.

Conclusion

As per the results of the study on knitted gloves usage in okra harvesting and their role in combating occupational injuries farm workers, it was observed that they prefer knitted gloves and it was also observed that they need protection to hands while harvesting /picking activities. Created awareness to farm worker and used this knitted gloves for field trials. The willingness adaptability rate of the knitted gloves was good, hence, it can be concluded that, the farmers have gained knowledge in knitted gloves. Using knitted gloves while harvesting okra gives proper protection to the hands especially from cuts, bruises rashes, boils etc., and reduced the drudgery in the hands observed farmers /farm women /okra pluckers practice and speeding up the activity due to comfort grip, workers expressed happiness attending the house hold activities.

References

- Alapati Padma, Shaik Khateeja Sulthana. Indigenous method to combat environmental health hazards of agricultural workers while harvesting. international Journal of educational science and Research. 2017; 7(5):91-100.
- Punam Rani, Neelam Pruthi, Saroj S Jeet Singh, Priya Makkar. Protective Clothing for Females Engaged in Wheat Threshing. Indian Journal of Research. 2013; 2(12):103-106.

- Singh Divya, Vinay Deepa. Gender participation in Indian agriculture, an ergonomic evaluation of occupational hazard of farm and allied activities. International Journal of Agriculture, Environment and Biotechnology. 2013; 6(1):157-168