Research Article

Indian Journal of Extension Education
Vol. 61, No. 1 (January–March), 2025, (13-18)

ISSN 0537-1996 (Print)
ISSN 2454-552X (Online)

# Development of Media Package for Creating Awareness among Rural Women Regarding use of Aloe vera

Parneet Mahal[1]*, Kanwaljit Kaur[2] and Mandeep Sharma[3]

[1]Ph.D. Research Scholar, [2]Professor, [3]Assistant Professor, Department of Extension Education and Communication Management, Punjab Agricultural University, Ludhiana, Punjab, India
*Corresponding author email id: gurmeharadhi@gmail.com

## HIGHLIGHTS

- Media package regarding health benefit, its nutritive value and usage of Aloe Vera into different forms for curing various ailments was developed.
- Awareness to rural women regarding various parameters of Aloe Vera was disseminated through developed media package.
- Difference in mean scores obtained from pre and post exposure indicated that the respondents had gained awareness regarding all parameters of Aloe vera.

ARTICLE INFO

**Keywords:** Media package, Aloe vera plant, Awareness level, Printed material, WhatsApp message.

https://doi.org/10.48165/IJEE.2025.61103

**Conflict of Interest:** None

**Research ethics statement(s):** Informed consent of the participants

## ABSTRACT

To check the effectiveness of developed media package on Aloe vera, a sample of 130 rural women from 13 villages of Ludhiana district was purposively selected. The data were collected in April and May 2024 from Ludhiana district and were analyzed with the help of percentage, mean score and paired t-test. The media package containing printed material, WhatsApp messages and video clips on Aloe vera was developed and validated by 30 Subject Matter Specialists. Effectiveness of media package was measured in terms of mean change in health benefit, its nutritive value and usage into different forms for curing various ailments and awareness level of the respondents after the exposure of the media package. Interview schedule was constructed to collect data into two phases. Before exposure to media package data regarding status of growing and awareness level of Aloe vera plant. Printed materials related to plant were distributed to the respondents. WhatsApp message and video clips were sent to the rural women. After 25 days post awareness data were collected. Results of the study showed significant change between pre and post awareness mean score for its all parameters. So, the prepared media package was proved to be effective to motivate people.

## INTRODUCTION

Aloe vera, a succulent plant with thick, fleshy leaves, is renowned for its wide-ranging health and cosmetic benefits. Originating from the Arabian Peninsula, this versatile plant is now cultivated globally in tropical and subtropical climates. Aloe vera's leaves contain a soothing gel that has been traditionally used for its anti-inflammatory and healing properties, making it a popular remedy for sunburns, minor burns, and skin irritations. Beyond skincare, Aloe vera juice is consumed for its potential digestive benefits, offering hydration and a range of vitamins and minerals. Its easy cultivation and multifaceted uses have cemented Aloe vera as a staple in both traditional medicine and modern wellness practices. The plant's distinctive appearance is marked by its rosette of long, lance-shaped leaves that are typically green to gray-green. These leaves are not only visually striking but also functional,

Received 21-09-2024; Accepted 12-11-2024

containing a clear, gel-like substance that is central to the plant's therapeutic properties. This gel, which is extracted from the inner leaf, is renowned for its soothing and healing qualities. For centuries, Aloe vera gel has been employed in various cultures to treat a range of ailments, from minor burns and sunburns to skin irritations and wounds. Its application extends beyond simple relief; the gel has anti-inflammatory, antimicrobial, and moisturizing effects, making it a valuable ingredient in many over-the-counter skincare products. Aloe vera juice, derived from the same plant, is consumed for its purported digestive advantages. It is believed to help soothe the gastrointestinal tract, aid in digestion, and provide a mild laxative effect. Aloe vera juice contains a host of vitamins, including A, C, and E, as well as several B vitamins, which contribute to its nutritional profile. Furthermore, it is rich in minerals like calcium, magnesium, and zinc, which play essential roles in various bodily functions. Despite its benefits, it is important to consume Aloe vera juice in moderation and be mindful of potential side effects, such as digestive discomfort or laxative effects, especially when consumed in large quantities. Aloe vera is often grown in pots or containers, allowing for easy management and care. Its hardy nature and minimal water requirements make it an ideal choice for those looking to cultivate a plant with practical benefits. It is also advertised for its detoxifying properties and role in supporting liver function. So, there is need to create awareness of all benefits of Aloe vera to general public. For creating awareness to large number of people, there is shortage of human resources. To meet the above challenge there is need to develop mass media. Keeping this in view, media package was developed. Media package was operationalized as package which included booklet, WhatsApp messages and video clips contained information on health benefits of Aloe vera plant, its nutritive value and how to use Aloe vera into different form i.e. in form of juice, paste, gel and pulp. Thus, the study was conducted with the objectives to assess the status of rural women for growing Aloe vera plant and to measure the effectiveness of developed media package in terms of creating awareness among rural women related to use of Aloe vera plant for health care.

## METHODOLOGY

The study was conducted in the 13 villages of Ludhiana district of Punjab State. To check the effectiveness of media package, a sample of 130 rural women from 13 villages of Ludhiana district was purposively selected for the convenience of the investigator. Ten women respondents were selected from each village. The selection of the respondents was based on their access to android, smart phones or any other more advanced handset with internet availability. They should be regular users of WhatsApp, you tube or Facebook. Prepared media package on Aloe vera was validated by 30 Subject Matter Specialists of various Departments for its relevance, completeness and correctness. Interview schedule was constructed to collect data on status of growing Aloe vera plant and to measure awareness related to health benefits of Aloe vera, its nutritive value and usage of Aloe vera plant into different forms. Data were collected into two phases. Before and after the exposure to the media package. After the first phase of data collection the media package was exposed to the respondents. The printed booklet was distributed. WhatsApp messages were sent next day to the rural women which included messages related to introduction, health benefits and usage of Aloe vera plant into different forms. Messages were transformed into text messages, messages with pictures. Video clip with pictures, sound and text was delivered through online platform.After the dissemination of information through developed media package, a gap of a minimum of 25 days was observed to assess the change in awareness level of the respondents. During the second phase, data were collected by using the same interview schedule. To check the effectiveness of media package pre and post awareness score were compared. The awareness scores were judged on a three-point rating scale like aware, somewhat aware and not aware. These responses were assigned weightage of three, two and one scores respectively. So mean score range was between 1.00 to 3.00. Data were analyzed with the help of percentage, mean score and paired t-test.

## RESULTS

### Status of growing the aloe vera plants by the respondents

The status of growing Aloe vera included place of growing plants at household or commercial level. These plants can easily grow in pots, gardens and farm land which is a common practice. The source of getting the plants or seeds for growing was also included.

The data regarding distribution of respondents according to their status of growing Aloe verahave been presented in Table 1. The data revealed that Aloe vera plant was planted by 76.15 per cent of the respondents. In 49.23 per cent cases it was grown in pots and in 16.15 percent cases it was planted open in a house followed by (8.46%) respondents were growing it in the land adjoining to their houses and (2.31%) at the farm respectively. As in case of Aloe vera plants were mostly procured from relatives (26.15%), neighbours (11.54%), friends (11.54%) followed by (9.23%) from private nurseries, (6.15%) from private seed shop. Only (0.77%) of the respondents was purchasing nursery from P.A.U., Ludhiana for growing of Aloe vera plant at household level.

**Table 1.** Distribution of respondents according to their status of growing Aloe vera

| Status | Percentage |
|---|---|
| Level of growing | |
| Household level | 76.15 |
| Commercial level | - |
| Place of growing Aloe vera | |
| Pots | 49.23 |
| Open land in a house | 16.15 |
| Adjoining land | 8.46 |
| At Farm | 2.31 |
| Source of getting plants/seeds | |
| Relatives | 26.15 |
| Friends | 11.54 |
| Colleagues | 2.31 |
| Neighbours | 14.62 |
| Private seed shop | 6.15 |
| Private nurseries | 9.23 |
| Punjab Agricultural University | 0.77 |
| Private sellers | 5.38 |

**Effectiveness of developed media package in terms of creating awareness**

Effectiveness of developed media package of Aloe vera plant was measured as a mean change in health benefit of Aloe vera, its nutritive value and usage into different forms of for curing various ailments and change in awareness level of the respondents after exposure of media package.

The data regarding health benefits of Aloe vera is presented in Table 2. Change in average awareness mean score was 0.76 from 1.20 to 1.96. The change in awareness was more pronounced for its use as an antioxidant (1.56) and as a stimulator for cell growth and generator of new tissues (1.31). Before the intervention the mean score for awareness was highest in case of skin problems followed by that of improved digestion and cosmetic use in case of Aloe vera. The change in awareness about health benefits was more pronounced with respect to Aloe vera for its use as an antioxidant and as a stimulator for cell growth and generator of new tissues. The findings connected to the multiple health benefits of aloe vera are relevant with the results of research studies conducted by Nandal & Bhardwaj (2012); Sahu et al., (2013); Lanka (2018); Saxena & Bhatnagar (2020)

Information concerning the awareness of respondents regarding nutritive value of Aloe vera plant have been given in Table 3. The data exhibited improvement in awareness of respondents pertaining to nutritive value of Aloe vera from 1.00 to 1.76 displaying a shift of 0.76 in mean score after the intervention. As for as other nutrients are concerned the change for awareness was more pronounced for calcium (2.46), sodium (2.39) followed by carbohydrate (1.45), potassium (1.42) and phosphorus (1.41).

The data obtained regarding usage into different forms of Aloe vera for curing various ailments is reported in Table 4. The awareness exhibited change to the extent of 0.69 for use of its different forms against various ailments. There was conspicuous enhancement in awareness for use of Aloe vera juice for heat burn (1.16) and for Aloe vera gel to cure eczema (1.45) and cuts, wounds and shingles (1.35) after the intervention. There was higher awareness for use of different forms of Aloe vera, viz. Aloe vera juice for ulcers, Aloe vera gel for sun burn and Aloe vera pulp for burns, boils and insect bite before the intervention. Enhancement in awareness in usage of various forms was observed in case of Aloe vera juice for heart burn, Aloe vera gel for eczema, cuts, wounds and shingles. The findings related to the usage into different forms of aloe vera are consistent with the results of research studies conducted by Dehkordi (2002); Manvitha & Bidya (2014); Guo & Mei (2016); Saxena & Bhatnagar (2020).

Data regarding level of awareness of Aloe vera plant have been presented in Table 5. The awareness level was low (100%) which got converted into medium (93.08%) and high (0.77%) after

**Table 2.** Change in the awareness regarding the health benefits of Aloe vera

| Health benefits of Aloe vera | Before the intervention (Mean score) | After the intervention (Mean score) | Mean change |
|---|---|---|---|
| Antioxidant | 1.00 | 2.56 | 1.56 |
| Anti-inflammatory | 1.15 | 1.67 | 0.52 |
| Anti-microbial | 1.14 | 1.73 | 0.59 |
| Anti-bacterial | 1.00 | 1.65 | 0.65 |
| Ani-viral | 1.00 | 1.85 | 0.85 |
| Anti-fungal | 1.00 | 2.07 | 1.07 |
| Controls diabetes | 1.59 | 2.38 | 0.79 |
| Prevents tumour | 1.00 | 1.59 | 0.59 |
| Heals gum diseases | 1.00 | 1.44 | 0.44 |
| Improves digestion | 1.59 | 1.61 | 0.02 |
| Strengths heart and nervous system | 1.00 | 1.71 | 0.71 |
| Stimulate cell growth and generate new healthy tissue | 1.01 | 2.32 | 1.31 |
| Used in cosmetic products | 1.59 | 2.45 | 0.86 |
| Skin problem | 1.78 | 2.35 | 0.57 |
| Average mean | 1.20 | 1.96 | 0.76 |

*Mean range (1-3)

**Table 3.** Change in the awareness regarding the nutritive value of Aloe vera

| Nutritive value of Aloe vera | Before the intervention (Mean score) | After the intervention (Mean score) | Mean change |
|---|---|---|---|
| Aloe vera | | | |
| Carbohydrate | 1.00 | 1.45 | 0.45 |
| Sodium | 1.00 | 2.39 | 1.39 |
| Calcium | 1.02 | 2.46 | 1.44 |
| Potassium | 1.00 | 1.42 | 0.42 |
| Phosphorus | 1.00 | 1.41 | 0.41 |
| Average mean | 1.00 | 1.76 | 0.76 |

*Mean range (1-3)

**Table 4.** Change in the awareness regarding the usage into different forms of Aloe vera for curing various ailments (n=130)

| Different forms of Aloe vera for curing various ailments | Before the intervention (Mean score) | After the intervention (Mean score) | Mean change |
|---|---|---|---|
| Aloe vera juice | | | |
| Ulcers | 1.95 | 2.35 | 0.40 |
| Heart burn | 1.00 | 2.16 | 1.16 |
| Arthritis | 1.00 | 1.55 | 0.55 |
| Ear infection | 1.00 | 1.56 | 0.56 |
| Stomach pain | 1.00 | 1.55 | 0.55 |
| Aloe vera paste | | | |
| Constipation | 1.00 | 1.72 | 0.72 |
| Aloe vera gel | | | |
| Sun burn | 1.95 | 2.46 | 0.51 |
| Eczema | 1.00 | 2.45 | 1.45 |
| Cuts, wounds and shingles | 1.00 | 2.35 | 1.35 |
| Sports injuries | 1.00 | 1.63 | 0.63 |
| Warts | 1.00 | 1.56 | 0.56 |
| Aloe vera pulp | | | |
| Jaundice | 1.00 | 1.52 | 0.52 |
| Eye problems | 1.00 | 1.51 | 0.51 |
| Cuts, wounds, burns and boils | 1.98 | 2.24 | 0.26 |
| Insect bites | 1.00 | 1.55 | 0.55 |
| Average mean | 1.19 | 1.88 | 0.69 |

**Table 5.** Level of awareness regarding Aloe vera plant

| Level of awareness | Before the intervention f (%) | After the intervention f (%) | Percentage change |
|---|---|---|---|
| Health benefits | | | |
| Low (14-23) | 130 (100.00) | 8 (6.15) | -93.85 |
| Medium (24-33) | - | 121 (93.08) | 93.08 |
| High (34-42) | - | 1 (0.77) | 0.77 |
| Nutritive value | | | |
| Low (5-8) | 130 (100.00) | 36 (27.69) | -72.31 |
| Medium (9-12) | - | 94 (72.31) | 72.31 |
| High (13-15) | - | - | - |
| Usage into different forms of Aloe vera for curing various ailments | | | |
| Low (16-26) | 130 (100.00) | 25 (19.23) | -80.77 |
| Medium (27-37) | - | 101(77.69) | 77.69 |
| High (38-48) | - | 4 (3.08) | 3.08 |

**Table 6.** Distribution of respondents according to the overall awareness regarding Aloe vera plant

| Parameters of Aloe vera | Before the intervention (Mean score) | After the intervention (Mean score) | Mean change | t-value |
|---|---|---|---|---|
| Health benefits of Aloe vera | 1.20 | 1.96 | 0.76 | 46.47** |
| Nutritive value of Aloe vera | 1.00 | 1.76 | 0.76 | 40.47** |
| Usage into different forms of Aloe vera for curing various ailments | 1.19 | 1.88 | 0.69 | 28.43** |

*Mean range (1-3), Significant at 1% level of significance

intervention depicting a change in favour of medium (93.08%). The awareness level regarding nutritive value of Aloe vera was low (100.00%) before the intervention and awareness level after the intervention showed change to medium level (72.31%). In Aloe vera the low level of awareness (100%) regarding the usage into different forms of medicinal plants for curing various ailments showed a change to medium (77.69%) level after intervention. The findings of the study regarding level of awareness are consistent with the results of research studies conducted by Roy & Ghosh (2022); Gupta et al., (2024).

The data related to overall awareness regarding Aloe vera plant have been shown in Table 6. The data disclosed significant change in awareness. The mean change in awareness was equal in case of health benefits (0.76) and nutritive value (0.76) after intervention

and lowest in case of usage into different forms of Aloe vera for curing various ailments (0.69). From t value it could be inferred that the difference in the mean score obtained from pre and post exposure was significantly indicating that the respondents had gained awareness regarding all parameters of Aloe vera. Thus, it could be concluded that the use of developed media package was effective. The study findings are supported by Kaur et al., (2022); Kaur & Kaur (2023). They concluded that WhatsApp messages and video clips were effective for imparting the knowledge to rural women of Ludhiana district of Punjab.

## DISCUSSION

Aloe vera was grown by respondents at household level, they were not cultivated on commercial scale. The probable reasons for this could be constraint of land, lack of marketing and they have been uneconomical because of unavailability of minimum support price and remunerative prices. Aloe vera was grown by nearly half of the respondents in pots followed by planting open in a house. The most important sources of Aloe vera plants or seeds were neighbours, relatives and friends. The respondents usually purchased very less seed or plants from Punjab Agricultural University as all of them were rural women. Probably they were not fully aware of the availability of seeds or plants from PAU. Moreover, the accessibility of seeds or plants in the neighbourhood and from relatives was more convenient.

Before the intervention the mean score for awareness regarding health benefits of Aloe vera was highest in case of skin problems followed by improved digestion and cosmetic use. The change in awareness after the intervention about health benefits of Aloe vera was more noticeable for its use as an antioxidant and as a stimulator for cell growth and generator of new tissues. The findings connected to the multiple health benefits of Aloe vera are relevant with the results of research studies conducted by Nandal & Bhardwaj (2012); Sahu et al., (2013); Lanka (2018); Saxena & Bhatnagar (2020). The change in awareness was more noticeable as the respondents were less aware about their nutritive value before the intervention.

There was higher awareness for usage of different forms of Aloe vera for curing various ailments i.e. Aloe vera juice for ulcers, Aloe vera gel for sun burn and Aloe vera pulp for burns, boils and insect bite before the intervention. Enhancement in awareness in usage of various forms was observed in case of Aloe vera juice for heart burn, Aloe vera gel for eczema, cuts, wounds and shingles. The findings related to the usage into different forms of Aloe vera are consistent with the results of research studies conducted by Dehkordi (2002); Manvitha & Bidya (2014); Guo & Mei (2016); Saxena & Bhatnagar (2020). Awareness level for health benefits of Aloe vera was low before the intervention. However, it was converted to medium level after the intervention. The findings related to awareness of health benefits of Aloe vera are consistent with the results of research studies conducted by Jyoti (2015) & Sharma (2015).

Low level of awareness for nutritive value was displayed for Aloe vera plant before the intervention. The awareness showed considerable shift to medium level after the intervention. The findings of the study are consistent with the results of research studies conducted by Singh (2022). He studied nutritive value of natural sweeteners of Punjab. The level of awareness among respondents regarding usage into different forms of Aloe vera plant for curing various ailments was low before the intervention. On the whole low level of awareness changed after the intervention to medium level. The mean change in awareness was equal in case of health benefits and nutritive value after the intervention and was lowest in case of usage into different forms of Aloe vera for curing various ailments. The difference in mean scores obtained from pre and post exposure indicated that the respondents had gained awareness regarding all parameters of Aloe vera.

During first phase of data collection respondents had low level of awareness regarding all parameters of Aloe vera plant. But after exposure it was changed upto medium level, the reason for medium level of awareness may be that it is difficult to memorize all things. Significant change was seen between pre and post awareness data. Prepared media package is proved to be effective to motivate people for growing and creating awareness about Aloe vera plant. The findings are in line with the results of research study Geethalakshmi et al., (2024). They suggest that digital media is an effective tool for amplifying farming and rural upliftment

## CONCLUSION

Not even a single respondent was growing Aloe vera at commercial level. Only negligible percentage (0.77%) of the respondents was purchasing nursery from P.A.U., Ludhiana for growing of Aloe vera plant at household level. It is suggested that there is further need of extension work for promotion and popularization of Aloe vera for economic benefits of the farmers. Significant change between pre and post awareness mean score of Aloe vera plant for all parameters i.e. its health benefits, nutritive value and its usage into different forms of selected medicinal plants for curing various ailments was observed. Awareness level of the respondents had also increased after the exposure of media package. So, prepared media package is proved to be effective to motivate people for growing and creating awareness about Aloe vera plant. This media package can be used by Extension Personnel for their wider outreach.

## REFERENCES

Bisht, V. K., Kandari, L. S., Negi, J. S., Bhandari, A. K., & Sundriyal, R. C. (2013). Traditional use of medicinal plants in district Chamoli, Uttarakhand, India. *Journal of Medicinal Plants Research, 7*(15), 918-929.

Dehkordi, G. A. (2002). Tehran: Ministry of Health, Treatment and Medical Training publication. *Iranian Herbal Pharmacopeia (in Persian), 1*(2), 528-530.

Dogra, K. S., Chauhan, S., & Jalal, J. S. (2015). Assessment of Indian medicinal plants for the treatment of asthma. *Journal of Medicinal Plants Research, 9*, 851-62.

Geethalakshmi, K., Thaloor, S., & Gajare, P. (2024). Investigating the impact of online media on agricultural practices and rural development: A content analysis. *Indian Journal of Extension Education, 60*(3), 42-48.

Guo, X., & Mei, N. (2016). Aloe vera: A review of toxicity and adverse clinical effects. *Journal of Environmental Science and Health, 34*(2), 77–96.

Gupta, R. M., Negi, A., Sharma, P., & Kaur, S. (2024). Farmer's awareness regarding climate change and its effect on ground water. *Indian Journal of Extension Education, 60*(1), 91-94.

Jaiswal, N., Swamy, D., & Jaiswal, P. (2016). Awareness about Indian traditional herbal medicines in India. *International Journal of Research in Social Sciences, 6*, 310-314.

Jyoti, J. (2015). *Indigenous use of medicinal plants for digestive problems in Punjab*. M.Sc. Thesis, Punjab Agricultural University, Ludhiana, India.

Kaur, J., Kaur, K., & Sharma, M. (2022). Knowledge level of rural women regarding safe and judicious use of chemicals at household level. *Journal of Community Mobilization and Sustainable Development, 18*(1), 328-330.

Kaur, K., Kaur, A., & Thakur, S. (2020). Use of medicinal plants in traditional health care practices: A case study in Talwandi Sabo, Bathinda district, Punjab (India). *Current Botany, 11*, 75-86.

Kaur, L., & Kaur, K. (2023). Effect of extension strategies for imparting knowledge on practices of safe storage of water at household Level. *Journal of Community Mobilization and Sustainable Development, 18*(2), 524-528.

Lanka, S. (2018). A review on aloe vera-the wonder medicinal plant. *Journal of Drug Delivery & Therapeutics, 8*(5), 94-99.

Manvitha, K., & Bidya, B. (2014). *Aloe vera*: a wonder plant its history, cultivation and medicinal uses. *Journal of Pharmacognosy and Phytochemistry, 2*(5), 85-88.

Muthu, C., Ayyanar, M., Raja, N., & Ignacimuthu, S. (2006). Medicinal plants used by traditional healers in Kancheepuram district of Tamil Nadu, India. *Journal of Ethnobiology and Ethnomedicine, 2*, 43-52.

Nandal, U., & Bhardwaj, R. L. (2012). Aloe vera for human nutrition, health and cosmetic use-A review *International Research Journal of Plant Science (ISSN: 2141-5447), 3*, 038-046.

Pathak, D., & Sharma, R. (2017). Review on "Aloe vera- medicinal plant". *International Journal of Advance Research and Innovative Ideas in Education, 3*, 2395-4396.

Prakash, R. (2014). Traditional uses of medicinal plants in Uttarakhand Himalayan region. *Scholars Academic Journal of Biosciences, 5*(2)*,* 345-53.

Roy, S., & Ghosh, S. (2022) Determinants of adaptation during COVID-19 pandemic by rural households in Cooch Behar district of West Bengal. *Indian Journal of Extension Education, 58*(3), 126-130.

Sahu, P. K., Giri, D. D., Singh, R., Pandey, P., Gupta, S., & Shrivastava, A. K. (2013). Therapeutic and medicinal uses of Aloe vera: a review. *Pharmacology & Pharmacy, 4*, 599–610.

Saxena, S. K., & Bhatnagar, D. (2020). Aloe-vera: a valuable ingredient dolphin institute of Biomedical & Natural Sciences, Manduwala, Dehradun (Uttaranchal). *Special Report* 2020.

Sharma (2015). *Indigenous use of medicinal plants for respiratory problems in Punjab*. [M.Sc. Thesis, Punjab Agricultural University, Ludhiana, India].

Sidhu, M. C., Kaur, K., & Ahluwalia, A. S. (2011). The use of traditional plant remedies in Hoshiarpur district of Punjab, India. *Journal of Phytology, 3*(9), 10-19.

Singh, D. (2022). *Awareness and extent of use of natural sweeteners in dairy diet by women of Punjab*. [M.Sc. Thesis, Punjab Agricultural University, Ludhiana, India].