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Study on challenges of small-scale women entrepreneurs in the business of traditional Telangana state snacks especially Sakinalu

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Abstract
A survey was conducted among the 30 small scale entrepreneurs in the business of traditional Telangana foods in Hyderabad selected by purposive random sampling technique. Interview method with a structured questionnaire was used for finding out the challenges faced by them while preparing, packaging, storing and quality aspects while selling the products. The most popular and best-selling foods were sakinalu, garelu, arisalu, bundi laddoo, and palli laddoo with demand peaking during festivals. Sunflower oil (70%) and palm oil (30%) were utilised as frying medium. LDPE (50%) and ordinary packaging (50%) were employed as packaging materials. Entrepreneurs faced two quality challenges: breakage (66.67%) and rancidity (13.33%). Entrepreneurs expecting mechanisation (93.33%) and incentives (6.67%). The survey concluded that entrepreneurs were facing challenges while preparing products manually which leads to physical exhaustion, back pain so, they are expecting mechanization to reduce drudgery. They are facing challenges related to breakage and storage so suitable packaging technology should be developed. Many enterprises, lack of storage facility so they are preparing products on daily basis and selling which is a hinderance to the business. In addition to mechanization entrepreneurs are expecting some policies, and incentives from local government which can lead to further growth of an enterprise.

Keywords: Telangana traditional foods, sakinalu, small scale entrepreneurs, challenges

Introduction
The term snack refers to a widely diverse range of food products that differ in substance, shape and size, manner of processing, and even role in the diet. The purpose of a snack is to provide a light, handy, and pleasurable eating option between main meals. People nowadays love to consume snack foods because of the light and quick meal that can be consumed anywhere and anytime compared to the main meal. Besides, living in a very hectic lifestyle also led many people to consume snack foods in a way to prevent them from hunger (Albayrak *et al*., 2010) [1]. Snack foods are widely available since a significant number of cottage/small scale manufacturing units are involved in the production of these products. The ease of availability, mouth feel, flavour, texture, crispiness, and diversity are some of the other aspects that contribute to the popularity of deep fat fried snack food in the Indian diet.

Traditional foods are often referred to as legacy foods, vintage foods, ethnic foods, and cultural foods. It is estimated that over 5000 foods are produced across the nation. Traditional cuisines are frequently connected to regional foods that are made locally using specific regional ingredients. Traditional foods, according to Trichopoulou *et al*. (2007) [2], are those that have been consumed locally or regionally for a long time and whose preparation techniques have been handed down the generations.

"Sakinalu" is an ethnic food of Telangana. Ethnic foods play an important role in local identity, consumer behaviour, the transfer of cultural heritage for future generations and the interaction of this heritage with the rest of the world. Sakinalu is a very common and popular traditional Telangana deep-fried ready to eat handmade snack which is composed of freshly ground rice flour, sesame seeds and carom seeds (Sudha, 2016) [3]. It is a nutritious snack item which is excellent source of protein, vitamin B1, calcium, phosphorous, iron, manganese, Vitamin E and fiber so can be explored as healthy snack (Janaki, 2022) [4].

Fried snacks are particularly appealing to consumers because of various sensory characteristics. Rancidity is the fundamental problem with fried foods, and it is also a factor in

the deterioration of food quality. The amount of oxidation that occurs to produce peroxides, aldehydes, and ketones from fats and oils impacts sensory qualities of food products such texture, sight, smell, and taste (Grey, 1978) [5]. By choosing the proper packing materials and storage temperature, it is possible to limit the rancidity of fried meals, as packaging materials and storage temperature have an effect on the shelf life of fried snacks (Abong *et al*., 2011) [6]. A quality packaging is essential since it serves as a marketing tool to bring in customers and educate them about the products in addition to keeping and protecting the contents. According to Marsh *et al*. (2007) [7], packaging provides protection against three basic types of external impacts: chemical, biological, and physical factors.

Since fried foods absorb a significant amount of oil while frying (up to 40%), the quality of the frying oil that is used has a significant impact on the quality of fried foods. According to Houhoula and Oreopoulou (2004) [8], one of the main causes of frying oil degradation is unsaturated fatty acids. Snack foods ought to be crisp, yet sogginess caused by an increase in moisture ultimately leads to poor texture and product rejection (Taoukis *et al*., 1988) [9].

In Telangana state there are many small-scale women entrepreneurs who are involved in the business of traditional Telangana foods in the unorganized sectors catering to local, outstation, and international consumers. With the expansion of the product marketing radius, it has become critical to increase the product's shelf life, improve process control, and develop a better packaging profile through the integration of traditional and modern materials. So, the present study is planned to support small scale women entrepreneurs by studying the challenges faced by them while preparing, packaging, storing and quality aspects of the product.

Methodology

Research design

Survey method was adopted to study the challenges faced by women entrepreneurs while preparing, packaging, storing and quality aspects while selling the products.

Location of study

Hyderabad district from Telangana state was selected to conduct a survey related to traditional Telangana snacks especially sakinalu.

Sampling Procedure

Survey was conducted among 30 small scale entrepreneurs in the business of traditional Telangana foods in Hyderabad. These 30 entrepreneurs were selected by a purposive random sampling technique. These entrepreneurs were identified from social media, google search and through oral communication.

Data collection

Information was collected by interview method by visiting the business locations with a structured questionnaire consisting of 55 questions. The pre validated questionnaire covered the areas like challenges faced by them while preparing, packaging, storing, factors which affects the shelf life of fried foods like proportion of ingredients, method of preparation, type of frying medium used, storage condition, addition of preservatives and additives, type of packaging material used and quality parameters preferred by consumers.

Statistical analysis

All the results are analysed statistically to test the significance of the data collected using percentage.

Results and Discussion

Based on four broad categories i.e., preparation, packaging, storage and quality aspect present result are quantified.

The results of the study showed that, the most common products entrepreneurs dealing with were sakinalu, garelu, arisalu, murukku, burelu, chegodi, khajjikayalu, bundi laddoo, and palli laddoo. Among all the products most popular and best-selling food was sakinalu, with demand peaking during festivals.

Preparation

The ingredients used to make the products were similar in every enterprise but different proportions were used. The ingredients used for making plain sakinalu are aged rice, sesame seeds, carom seeds and salt. The commonly used proportion of rice and sesame seeds for making 1kg sakinalu are as shown in Table 1.

Table 1: Proportion of rice and sesame seeds for making 1kg sakinalu

Rice: Sesame seeds	Frequency	Percentage (%)
800:200	7	23.33
600:400	20	66.67
750:250	3	10

From the study population, 66.67% entrepreneurs are using rice and sesame seeds in the proportion of 600:400 for making 1kg sakinalu whereas 23.33% entrepreneurs are using 800:200 and 10% entrepreneurs are using 750:250 proportion. Majority of the population (96.67%) procuring raw materials from wholesalers whereas 3.33% procuring from PDS. The most commonly used method of preparation by majority of entrepreneurs (100%) for making sakinalu is as described in Figure 1.

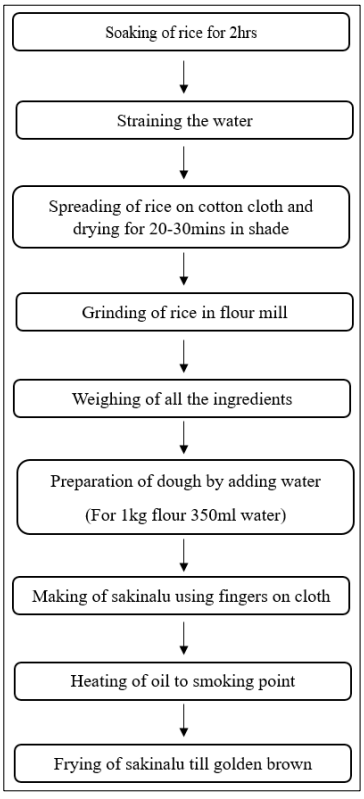

Fig 1: Schematic diagram for preparation of sakinalu

The basic infrastructure includes the flour mill (96.76%) with the capacity of 5-10 kg/hr and house hold grinder (3.33%) as shown in Table 2.

Table 2: Pre-preparation equipment with capacity

Parameters	Frequency	Percentage (%)
Pre-preparation equipment		
Household grinder	1	3.33
Flour mill	29	96.67
Capacity of equipment		
1-5kg/hr	3	10
5-10kg/hr	27	90

Production

Skilled workers are required for the preparation of product who can make approximately 1kg of product within an hour. Most of the entrepreneurs (56.66%) made 1-10kg of sakinalu per day whereas 26.67% and 16.67% made 11-20kg and 21-30kg respectively. Majority of study population (90%) suggested that 1 to 5 number of skilled workers are required to make 10 kg of sakinalu/day. (Table 3)

Table 3: Production of sakinalu

Parameters	Frequency	Percentage (%)
Quantity per day		
1-10 kg	17	56.66
11-20 kg	8	26.67
21-30 kg	5	16.67
Manpower for 10 kg sakinalu		
1-5	27	90
6-10	3	10
Time required for 1kg sakinalu		
Less than 1hr	21	70
1hr-2hrs	9	30

As shown in Table 4 the average size of sakinalu was less than 10cm. Each sakinalu consist of 4-5 concentric circles and the approximate width of one string of sakinalu was 1-2mm.

Table 4: Size of sakinalu

Parameters	Frequency	Percentage (%)
Size of sakinalu		
Less than 10 cm	28	93.33%
11-20 cm	2	6.67%
No. of concentric circles		
Less than 5	26	86.67
6-10	4	13.33
Width of 1 string		
1-2 mm	22	73.33
3-4 mm	8	26.67

Frying medium

Quality of frying medium is very important as it affects the shelf life of the product. Sunflower oil (70%) and palm oil (30%) were utilised as frying medium (Figure 2).

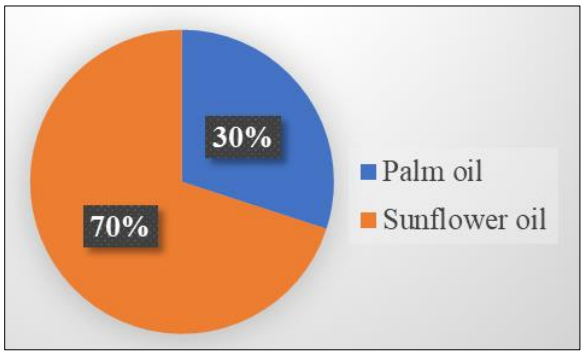

Fig 2: Frying medium

Quality yardsticks to check completion of frying

As per the study population, colour, aroma and crispiness were the common yardsticks for checking the completion of frying of the product (Figure 3).

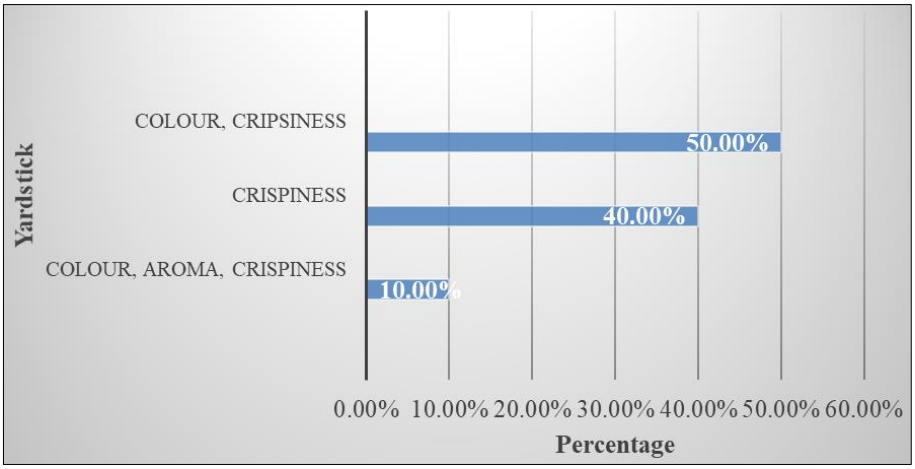

Fig 3: Yardsticks to check completion of frying

90% entrepreneurs were using perforated skillet whereas 10% were using metal skewer/ garela pulla for draining excess oil from sakinalu (Figure 4.)

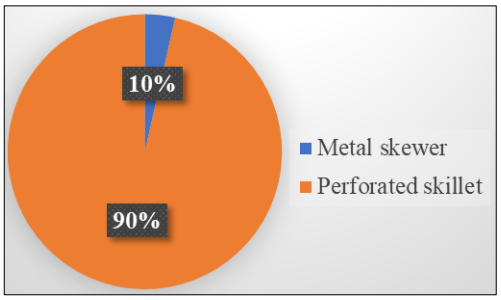

Fig 4: Equipment for draining oil

Entrepreneurs expressed that prepared products are saleable for 2-3 weeks. While preparing sakinalu entrepreneurs were facing challenges like maintaining uniform size, back pain, availability of skill workers etc. Muzaffar *et al*., 2009 [10] studied the problems faced by street food vendors and reported that running a street food vendor business requires certain skills for preparing a product. Tiwari and Anjum, 2018 [11] suggested that skills and hierarchical support can provide better results.

Packaging

Low density polyethylene (50%) and Polypethylene covers (50%) were used as packaging materials by entrepreneurs (Figure 5). The packaging material were procured by wholesalers. LDPE is usually used to pack a deep-fried snack due to its resistance towards water and oxygen, besides thinner in structure and is flexible (Tokiman *et al*., 2019) [12]. All small-scale entrepreneurs were using ordinary packaging method instead of vacuum packaging or nitrogen flushing which will help to increase the shelf life of the product (Tiwari *et al*., 2018) [13].

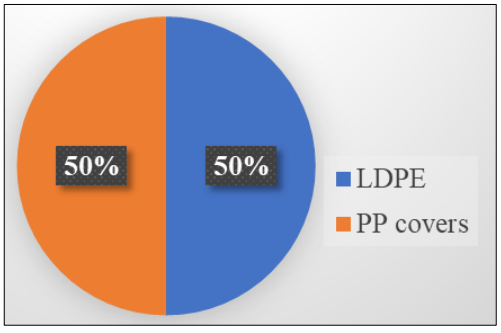

Fig 5: Packaging materials

From the study population, 60% entrepreneurs were sealing the packaging manually whereas 40% using sealing machine to sealed the packaging. The minimum packaging size was 250g. The cost for minimum size packaging was less than 2 rupees (Table 5).

Table 5: Packaging

Parameters	Frequency	Percentage (%)
Method of sealing		
Manually	18	60
With sealing machine	12	40
Minimum packaging size		
250 g	30	100
Cost of packaging		
Less than Rs.2	30	100

Most of the entrepreneurs are using simple polyethylene covers as packaging material without proper sealing which affects the shelf life of the product. There are various chemicals disseminated from polyethylene covers like polyvinyl chloride, polystyrene so consuming foods packed in polyethylene covers leads to various complications in the human body. So, better packaging material and method should be introduced which maintains the freshness of the product over the longer time period leading to better business and utility for producers as well as consumers.

Storing

As shown in Table 6 from the study population, 70% entrepreneurs storing products in open containers whereas 30% entrepreneurs were using air tight containers. 60% entrepreneurs were using storing containers having capacity 11-20 kg followed by less than 10kg (33.33%) and 21-30kg (6.67%).

Table 6: Storing containers and their capacity

Parameters	Frequency	Percentage (%)
Storing containers		
Open containers	21	70
Closed containers	9	30
Capacity		
Less than 10 kg	10	33.33%
11-20 kg	18	60%
21-30 kg	2	6.67%

Only few enterprises have the air tight containers for storing the product and many were preparing and selling the product as per the order on the daily basis due to lack of storing equipment. As majority of entrepreneurs are using open containers, it affects the safety of the food product as dust particles, rodents, insects will attack and contaminate the food item. So, there is a need to train these entrepreneurs on food safety practices to encourage them to use appropriate closed containers to avoid contamination.

Quality aspects

Majority of the population answered that the quality parameters which consumers are looking for were taste, crispiness, freshness and longer shelf life of the product.

As shown in Figure 6. entrepreneurs were facing two types of quality challenges i.e., breakage (63.33%) and rancidity (36.67%). As preparing products manually was time consuming and exhausting process entrepreneurs expecting mechanisation (93.33%) and incentives from local government (6.67%) as shown in Figure 7.

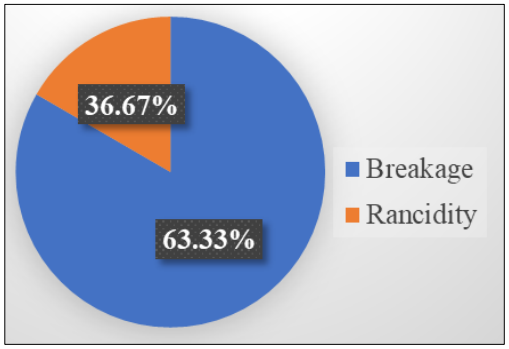

Fig 6: Quality challenges

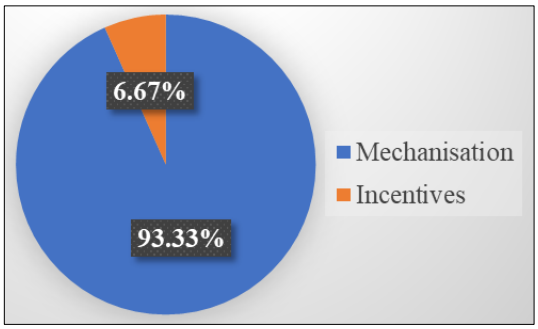

Fig 7: Entrepreneurs expectations

There were many women who are highly skilful in making the traditional snack and are trying to make a living by running the traditional Telangana food business in the unorganized sector, which often lacks resources needed to upgrade their facilities, so there should be the involvement of government in terms of policies and funds necessary to modernise their facilities and equipment and to support these woman entrepreneurs for the growth of their enterprise. Better governance can result in the funds and activities of the government having the desired effects on the growth of the enterprise (Tiwari *et al*., 2020) [14]. Positive changes in the target segment's life are the result of good policies with good intentions (Agrawal *et al*., 2022) [15]. So, government initiative is necessary for providing mechanization, incentives, and financial support to small scale entrepreneurs which will ease the business running.

Conclusion

From the result of the study showed that the most popular and best-selling traditional foods were sakinalu, garelu, arisalu, bundi laddoo, and palli laddoo with demand peaking during festivals. The ingredients used to make the products were similar in every enterprise but were used different in proportion. All the entrepreneurs procured the raw materials from wholesalers. A basic infrastructure included the flour mill (96.76%) with the capacity of 5-10kg/hr and house hold grinder (3.33%). The women who are involved in the preparation of product are skilled who can make 1kg of product per hour. The majority of study population make sakinalu of size less than 10cm which consist of 4-5 concentric circles and the width of one string of sakinalu was 1-2mm. Sunflower oil (70%) and palm oil (30%) were used as frying medium. Colour, aroma and crispiness were the yardsticks for checking the completion of frying. 90% entrepreneurs used perforated skillet and 10% used metal skewer/garela pulla for draining excess oil from sakinalu. LDPE and ordinary packaging were used as packaging materials by the most of the population. Majority of the population were using open containers for storing the prepared product and very few were using air tight containers. The traditional women enterprises are facing challenges like maintaining uniform size of product. As preparing products manually leads to physical exhaustion, back pain so, they want options for mechanized tools to reduce drudgery. They are facing challenges related to breakage and storage so suitable packaging should be introduced. Many enterprises have lack of storage facility so they are preparing products on daily basis. The entrepreneurs are expecting mechanization which ease the preparation process and some policies, incentives from local government which encourage future generations to start an enterprise and further growth of existing enterprise.

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