

Consumer survey and market analysis
of
Osmo - dehydrated Pineapple slice

By

SRI JAGANNATH MERCHANDISING PVT. LTD.

Introduction and Objective of Study

Gajapati district is located in the southern part of Orissa and is a hilly tribal district. The climatic and topographic condition of the district is a fortune to fruit crop growers of the district. Good quality of pineapple, orange, jackfruit etc are grown here and the cultivation is organic in nature. But the poor marketing network is a constraint for growth of this sector. Growers of this region every year make distress sale and hardly get any profit.

In order to avoid such situation and for economic upliftment of these growers, value addition to their produce as well as its marketing is the only solution. As a part of this objective, OUAT has developed a new product with value addition called “Osmo – dehydrated pineapple slices”. International Development Enterprises (India), Bhubaneswar is working for this project as a nodal agency.

The above product was developed by Scientists of College of Agriculture Engineering & Technology, OUAT Bhubaneswar and was packed in 100 gm packets. Prior to launching commercial production, there is a need to get consumer feedback about the product as well as about the market. Hence a study is to be made for ascertaining consumer opinion as different aspects related to this product.

The objective for this particular study is to ascertain

- 1) Consumer’s opinion on product features.
- 2) To know various uses of the product.
- 3) To know consumer’s perception about product utility.
- 4) To know price sensitiveness.
- 5) To get suggestions about consumer awareness.
- 6) To know their purchase frequency.
- 7) Other market related informations.

Besides knowing above informations, deficiency in different aspects is to be estimated. Basing on the consumer opinion, the product development, product positioning and the marketing strategy will be developed.

Methodology

Decision was made for collection of primary data as required for study. The secondary information was not sufficient as well as relevant for obtaining consumer's perception about different aspects. Following steps or methods were taken for collection of primary data.

It was decided to conduct a survey in Cuttack and Bhubaneswar city and views of consumers were invited through a schedule. Sample sizes were limited to 141 nos. (as per availability). Samples were selected on random basis from different income layers on a proportionate basis as given below.

<u>Income level</u>	<u>No. of samples</u>
< Rs. 50,000/-	24
Rs. 50,000/ - Rs. 1.00 lakh	70
Rs. 1.00 lakh – Rs. 2.00 lakh	34
Rs. 2.00 lakh and above	13
<hr/>	
141	

Similarly sample distribution in Cuttack and Bhubaneswar are 50 and 91 respectively. A structured questionnaire is prepared for getting consumer's view on several required components. Three nos. of enumerators were deployed for obtaining consumer opinion. Sample packets of the product were given free of cost and the questionnaire along with a request letter (sample copy enclosed) was provided. Product sample was given free of cost in order to avoid biasness of consumer for the product due to purchase behaviour. Secondly, there was neither brand name nor Manufacturer's name for the product and technically sale of these sample products were not permissible. A request letter giving detail information of the project and rehydration procedure was provided which helped a lot for getting favorable response and accessibility to enumerators.

After receipt of primary datas, these were processed and interpreted.

Scope and limitation of study

The study was made in Cuttack and Bhubaneswar city with 141 samples from different income level of respondents. Adequate time was provided to get unbiased response. However some limitations or constraints were faced. These are as follows.

- 1) Because of poor packing and appearance in the absence of brand/Manufacturer's name, the feedback was biased to some extent.
- 2) Since the product positioning or product attributes were not known exactly, views from all economic sections of people were obtained. Hence the response received was a mixed one.

However datas from all economic levels were helpful in deciding the target customers and constraint above was well taken care of.

Observation & Findings

As mentioned earlier primary data were collected from a sample of 141 consumers and the findings are given below.

a) Taste -

Like very much	[31%]
Like	[57%]
Neither like nor dislike	[8%]
Dislike	[4%]
Dislike very much.	[0%]

b) Flavour -

Like very much	[36.5%]
Like	[46%]
Neither like nor dislike	[9.5%]
Dislike	[6.5%]
Dislike very much.	[1.5%]

c) Sweetness -

Like very much	[40%]
Like	[44%]
Neither like nor dislike	[8%]
Dislike	[8%]
Dislike very much.	[0%]

d) Freshness -

Like very much	[18%]
Like	[52%]
Neither like nor dislike	[21.5%]
Dislike	[8.5%]
Dislike very much.	[0%]

e) Appearance -

Like very much	[13.5%]
Like	[46.5%]
Neither like nor dislike	[28.5%]
Dislike	[11.5%]
Dislike very much.	[0%]

f) Quality of Packing -

Like very much	[14%]
Like	[44%]
Neither like nor dislike	[19%]
Dislike	[18%]
Dislike very much.	[5%]

g) Colour of the Product –

Like very much	[16%]
Like	[48.5%]
Neither like nor dislike	[20%]
Dislike	[14.5%]
Dislike very much.	[1%]

The above observation shows that the taste is liked by 88% of respondents and flavour is liked by 82.5% of respondents. Similarly sweetness and freshness is liked by 84% and 70% of respondents respectively. But in respect of appearance, colour and packing of the product, the feedback is not encouraging. While 40% of respondents do not like the appearance of the product, 35.5% of respondents don't like the colour of the product. Since branding and packing with level was not finalized, 58% of respondents didn't like the packing. Regarding sweetness specific remarks were observed from some respondents. They observed it less sweet than fresh fruit even. Few sensitive and elite consumers have also questioned about the same food value of such processed product compared with fresh fruit.

An attempt was made to estimate per capita demand of the product as well as to know the price sensitiveness of this product with different economic layer of the consumers. The cost per 100gm pack of this product was said to be Rs. 12/- and the sensitiveness was tasted. The observation is as follows.

Income level below Rs. 50,000/- p.a.

Cheap - 0%
Normal - 31%
High - 69%

Income level within Rs 50,000/- - Rs. 1 lakh p.a.

Cheap - 0%
Normal - 67%
High - 30%
Very High - 3%

Income level from Rs. 1 lakh - Rs. 2 lakh p.a.

Cheap - 6%
Normal - 62%
High - 32%

Income level above Rs. 2 lakh p.a.

Cheap - 15%
Normal - 55%
High - 30%

From above observation it is seen that the price of Rs 12/- per 100gm packet is treated as high for low income group i.e. income below Rs. 50,000/- p.a.; but for income

groups above Rs. 1 lakh p.a., about 70% respondents termed price as either cheap or normal. At the same time 30% from these income groups treated the price as high.

Per capita demand estimation is attempted through expected frequency of use of the product and the observations are as follows.

Income level below Rs. 50,000/- p.a.

Weekly Purchase	- 4%
Monthly Purchase	- 21%
Seasonal/Festival Purchase	- 75%

Income level Rs. 50,000 - Rs. 1 lakh p.a.

Weekly Purchase	- 14%
Monthly Purchase	- 43%
Seasonal/Festival Purchase	- 43%

Income level Rs. 1 lakh - Rs. 2 lakh p.a.

Weekly Purchase	- 15%
Monthly Purchase	- 44%
Seasonal/Festival Purchase	- 41%

Income level above Rs. 2 lakh p.a.

Weekly Purchase	- 14%
Monthly Purchase	- 43%
Seasonal/Festival Purchase	- 43%

Almost all classes of people feel it as a slow moving Consumable product and don't prefer to weekly purchase. About 75% of low income level (below Rs. 50,000/-) doesn't prefer to buy this frequently. Similarly about 43% of rest of respondents from other income groups treat this product as a seasonal or festival time requirement.

Out of 141 respondents only 13% wants it weekly and 40% wants it monthly whereas rest 47% wants to differ the purchase to seasonal or festival occasions. Similarly 69% of total respondents directly replied it as a slow moving product.

Majority of respondents didn't like the packing and questioned about the brand name, Manufacturer's name and location of the plant etc. Since this product is yet to be commercially launched, Manufacturer's name, level and brand name was not printed on the packing. But almost 90% of respondents desires Company/Brand name with a good and attractive packing material.

Opinion was sought for consumer awareness of the product. Most of the respondents from low income group (below Rs. 50,000/-) like to display at retail point. Higher income group suggested for TV advertisement. Most of the respondents in middle income group (Rs. 50,000/- Rs.2 lakh) suggested for advertisement and retail point display. Some innovative opinions were also obtained. Few people suggested for initial TV advertisement and subsequent print media advertisement. Similarly few people suggested that it should be a combination of TV advertisement along with aggressive sales force.

Depending on varieties of use of this product views were sought for. Many respondents viewed for multiple uses. Out of 302 preferences obtained from 141 respondents about varieties of use, purpose like fresh fruit and pickle were preferred most slightly ahead of purposes like juice and fruit salad. It is evident that people were well understood about the variety of uses of this product and also presented equal weightage to all purposes. However cost factor for use as pickle is not considered by consumers.

Fresh fruit	-	82
Juice	-	70
Fruit salad	-	69
Pickle	-	81

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A need based study was made to understand customer's perception about this product basing on its purpose of use. This study is projected for evolving a positioning strategy. Many consumers have made multiple choice of use of this product. Out of 301 preferences received from 141 respondents, it is observed that the product is mostly preferred as breakfast fruit for whole family well ahead of other concepts.

As health food for senior Citizens	-	61
Fruit drink for children	-	70
Nutrious food for pregnant women	-	52
Breakfast food for whole family	-	118

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The product samples were provided and observations were collected from 141 nos. consumers. Repeat testing and collection of observations could not possible due to want of product samples as well as time. Anyway, a trial was made to observe customer satisfaction and their tendency for repeat purchase. It is observed that 95% respondents agreed for repeat purchase after testing the product. Only 5% clearly denies for purchasing the product.

Interpretation and Conclusion

Primary data were collected from respondents and analysed from various point of view in the last chapter. The interpretation and conclusion can be as follows.

Product features

In general, the taste and flavour is accepted by consumers along with freshness and sweetness. However specific suggestions were received for improvement of these attributes.

1. Different qualitative aspects of taste (like food value, nutrient value etc.) are not compared with fresh fruit. This aspect is to be taken care of.
2. Specific complains about sweetness and freshness is received. Hence product development by increasing sweetness and freshness can be thought of.
3. The appearance (i.e. size, shape, looking etc.) and the colour of the product is not appealing. The product is discoloured during processing because of irregular heat treatment. The uniformity of sizes of product is not maintained.
4. The cost of each 100gm packet was assumed as high by 70% of respondents from low-income groups. In other words, they feel that the cost of the product is more than the value of the product. Hence, the cost may be reasonably fixed matching with its value for this income group. For higher income group consumers, the cost is not a factor provided there is improvement in the product features. However, 30% of consumers from this category believe that the price is high with present quality.
5. It is observed that the product is a slow moving one and therefore demand estimation is difficult. Through aggressive awareness and educating people for its uses, the demand can be stimulated as well as regulated. The seasonal/Monthly purchase frequency can be accelerated through marketing strategy. Presently more than 85% of consumers treat this product as a monthly or seasonal or festival time purchase item.
6. Since most of the consumers treat this type of product as less important, they don't prefer to buy this frequently. Further use of processed fruit is not a common practice for which they should be educated. As most of the consumers prefer to purchase this type of product during festival occasions, special marketing steps need to be launched during festival periods.
7. So far as packing and quality of the product is concerned, consumers view is somewhat affected because of following reasons.

- a) Non - branding of the product.
- b) Manufacturer's name is not mentioned.
- c) Commercial packing is not done.

This is to be taken care of.

8. Regarding product awareness, consumers from low income group suggested for retail point display whereas consumers from higher income group suggested for TV or print media advertisement or both in combination. However, this point is to be critically examined considering the final product, price and target group.
9. It is interpreted that consumers have well understood about the application of this product for different type of uses. But the question arises about the consumption pattern of people i.e. whether they consume such type of food item frequently. Their food consumption pattern and food habit is to be studied further.
10. A perception study was made about the use of the product and it is seen that the product is preferred to be consumed by whole family during breakfast. Hence the product can be placed accordingly in the perceptual map of the consumer's mind and can be positioned accordingly in the market.
11. Regarding repeat purchase on the basis of one time product testing, it is observed that 95% of consumers agreed for repeat purchase even though a lot of them behaved differently so far as product quality, price and the purchase frequency is concerned. This is probably due to free distribution of product samples for which they evaluate this decision liberally. However, the response for repeat purchase, in general, is encouraging.

Suggestions and Recommendation

Product concept Development :

The idea for developing a new product “Osmo – dehydrated Pineapple slices” was the 1st step of product concept. After consumer survey, developing a product concept on the basis of actual image of product acquired by customer will be easy. From detail analysis in previous chapters, a product concept development can be made as follows.

Concept 1 :- An instant breakfast supplement food as fresh food for whole family.

Concept 2 :- An instant fruit drink for children.

Both the above concepts are appropriate here basing on the feedback received from consumers. Either of the above concepts or both can be developed further to finer one. The target consumers are middle income groups.

Concept Positioning :

Any concept requires positioning so that its real competition can be understood. This product can compete with alternate product like fresh fruit, fruit drinks, cold drinks etc. A product positioning map can be developed as below.

Expensive		Fruit drink Cold drink
Cheap	Fresh fruit	Brand X
	Slow	Quick

‘X’ – Osmodehydrated PA slice.

Similarly a positioning map can be developed considering Calorie content and cost or Calorie content and slowness. After positioning concept the strength of the product can be highlighted.

Product development :

In fact product should have been developed after developing product positioning and then it should have been tasted. Anyway the existing product was tasted and the consumer's image was studied. Basing on this study lot of product development is required.

The taste and flavour should be developed through R & D process as only 305 – 36% of consumers rated the product as very good. Similarly sweetness should be at par with fresh fruit. The process of dehydration should be developed to get a product of good appearance and colour. The packing needs improvement after commercial production.

Through R & D process, following aspects need to be studied and appropriate level may be maintained basing on target consumers need. This could not be possible to know through subjective testing.

Taste – Acidic, Bitter, Sour, Salty, Sweetness.

Odour – Acidic, Pungent, Moisty, Rotten, Sweet.

Texture – Waxy, Touchy, Tender, Rubbery, Brittle, Greezy.

Appearance – Flat, Crystalled, Wetty, Shiny, Fragile.

Besides, Laboratory test may be conducted to know the nutrient value, Calorie value, citrus content etc VIS a VIS the same in fresh fruit.

Hence we need a product of following features: “A nutritious sweet, flavour tender shiny dried pineapple slice having sweetness, freshness and specific calorie and nutrient value in order to be consumed by whole family as fresh fruit or by children as fruit drink”.

Market Strategy Development:

From market survey we ascertained certain facts that

- 1) It is a slow moving product.
- 2) The purchase is occasional, not essential.
- 3) The product can be used by whole family as fresh fruit and fruit drink.
- 4) The cost compared to product quality is high.
- 5) The product attributes need to be added a swell as to be developed.

The objective of the project is to be further analysed basing on surplus crop production, scale of production, production cost, market, marketing cost etc. The marketing opportunity and the project's objective should be compatible.

Strategies for product, price, promotional methods and distribution policy will be developed after commercial production basing on above views. However consumer's

feedback on promotional method and positioning map is to be kept in mind. Further a large base of customers are required because of occasional or slow rate of purchase. Hence a larger marketing area is to be taken for which marketing cost may be shot up.

Finally the marketing strategy depends totally on profile of target customer and product profile.

Recommendation I :

The product should be positioned properly i.e. the product attributes should be precisely defined along with competitive advantages and be projected for specific consumers need. The cost, quickness to prepare, nutrient value, calorie content etc may be taken into account for this purpose. In this particular study, most of the people wanted this product to consume during breakfast meal as fruit drink or as fresh fruit to get nutrition/ Calorie value.

Recommendation II :

More intensive study is carried out to develop the product. Besides physical properties like colour, odour, taste, appearance etc intrinsic values like sweetness content, citrus content, nutrient content, calorie content etc are to be appropriately maintained. The technology and process flow methods can be developed for commercial production after R & D study. Central Food Technology Research Institute, Mysore can be contacted for any such technology if developed by them.

Recommendation III :

The raw material is an organic produce and hence the final product should be certified as organic. Necessary certification may be accorded. This will have an edge over competitive products as the demand for organic foods is increasing both in domestic as well as in international market. In India, APEDA, a Govt. of India Organisation is acting as a nodal agency for popularising organic products.

Recommendation IV :

A business plan needs to be developed basing on location of raw material and production centre, surplus production, cost of raw material, cost of production, scale of production, sales price and objective of the producer. Basing on the volume of business, marketing plan will be developed as per the consumer feedback during this study. A marketing plan can be developed and incorporated in business plan.

Market analysis of processed fruit products in Orissa

In Orissa cultivation of horticultural crops is gaining popularity through some leading farmers who are growing horticultural crops in non-agricultural land. But the crop selection should be based on agro-climatic condition so that a vast geographical contiguous area will be covered by a particular crop. This will help setting up of processing centres in this region. However some regions are there where vast area is covered under one crop like pineapple in Gajapati & Rayagada district, Mango in Gajapati district, Litchi in Anugul & Deogarh district, Turmeric in Phulbani, ginger in Koraput and vegetables in Keonjhar district. These crops are to be developed in terms of productivity and quality etc. and processing centre are to be set up locally for value addition.

Value addition, in fruit crops particularly, can be jam, jelly, sauce, squash, pickle etc. In Orissa few small industries are processing these products at low scale. These Manufacturers are :

- 1) OMFED
- 2) HAVON (Arren Foods Pvt. Ltd.)
- 3) Sabita Foods
- 4) Maple agro.

Besides some fruit processing training centres, SHGs and individuals also prepare pickle, sauce etc. for their own consumption as well as for local sale.

Production as well as marketing of processed fruit products of Orissa is in a niche stage. Many Manufacturers from outside the state market their product in Orissa at high scale. This indicates that there is a consumption demand which is met by outside product because of their quality and marketing strategy. List of some of the Manufacturers and the product class they are dealing is given below.

KISSAN - Tomato Sauce, Squashes, Ketch-up, Jam.
NOGA - Squash, Jam, Tomato sauce.
GALA - Tomato Sauce, Squash, Jam.
Haldiram - Squash, Tomato Sauce.
Magee - Tomato Sauce, Ketch up.
TOPS - Pickle.
PREM - Tomato Sauce, Squash.
HAVON - Jam, Squash, Ketch up, Tomato Sauce.
OMFED - Tomato Sauce, Squash, Pickle.
DRIK - Tomato Sauce, Pickle, Jam.
Priya - Pickles.

The comparative unit price of processed fruit product of different Manufacturers is given below.

Rate (Rs.)

	Squash 750ml	Jam 500gm	Tomato sauce 1Kg.
KISSAN	58	52	75
OMFED	54	54	47
GALA	51	48	70
HAVON	52	52	71
Sabita	-	45	58
Haldiram	62	-	78
NOGA	50	47	65

It is estimated that the annual sales of these products in Orissa is around Rs. 3.0 to Rs. 3.5 crore. The product class wise share can be as follows.

Pickle	-	35%
Sauce	-	25%
Squash	-	15%
Jam	-	25%

Kissan make is still the market leader because of its longstanding services, quality, packing and positioning. GALA and NOGA make products are of good quality and are increasing their share. Since these products are slow moving items a vast geographical market is required which Kissan is enjoying since long through its distribution network. Kissan has the largest share of sales with 60% of market share.

It is evident from the consumption demand of people that there is tremendous scope of market for processed fruit product. But at the same time steps must be taken by these Manufacturers to snatch market share of outside products. This can be easy through increasing scale of production, tax exemption, tapping rural market and aggressive marketing policy.

Consumer Study on Pineapple squash prepared by CAET, OUAT Bhubaneswar

During processing of Osmo – dehydrated Pineapple slice, the remaining portion of pineapple was crushed and squash was prepared. Some samples were collected for consumer perception study. Since squash is not a new product and almost every consumer are aware of it, a comparative perceptual study was made to know its position in the perceptual map of all equivalent products in the mind of consumer.

Some samples were given to consumers to consume as family necessity and observations were collected. Further, a no. of consumers were given squash drink and their reactions were observed. Comparative views with respect to other brands were invited so far as quality is concerned. The overall view is given below.

The concentration and pineapple content in the squash solution is very good. The sugar content is not adequate which is also a favourable attribute as many people want less sugar content. Moreover sugar can be added as per individual's requirement and quality of water added to it. It is sticky because of high concentration and the colour is yellow. Permitted colour can be added to have an appealing colour. The flavour is not good having bitter odour probably because of more concentration. Permitted preservatives are to be added to appropriate level for a longer life period of the product. Hence the sugar content, pineapple juice concentration, permitted colour and preservative citrus content are to be maintained at an appropriate level to get a better and finer product. However the existing quality is at par with branded products. Usually squash and water content should be in the proportion of 1:3.

Regarding market ability of the product the product needs identity i.e. brand name and Manufacturer. Since it is a directly edible fruit product, F.P.O. license is to be accorded by the Manufacturer. The product development as discussed above is required. The price may be fixed at a lower range than branded company as consumers are normally price sensitive to this product because of available alternate products like cold drinks, tetra pack juices, cold drink and juices in pets etc. This product usually serves guests from outside and serves as an alternative to tea or coffee. This is also being used as a thirst- quencher in summer or summer like condition. The popularity in rural or semi-urban condition is increasing because of its easy preparation method. The packing is mainly in glass bottles and the handling and transportation is always difficult and costly. If the packing can be made with alternate materials without any effect, it is good. In fact, Kissan has introduced plastic bottles for these products. The comparative prices of branded products are mentioned in next chapter, basing on which price may be fixed.

In Gajapati district, good quality oranges & lemons are being grown. Orange & lemon squash can be produced in same method so that a range of product can be obtained and marketing will be easy.

SRI JAGANNATH MERCHANDISING PVT. LTD.

Plot No. 20/1612, Budheswari Colony, Cuttack Road

Bhubaneswar-6, Tel. No. - 0674-2573539 (O).

Dear Sir,

We are conducting a Consumer Survey for a new product on trial basis. The product is "**Osmo-dehydrated Pineapple Slices**" produced from sweetest Pineapple grown in tribal belts of Gajapati District. In order to develop the Socio-economic condition of the tribal people of this area, value addition to their produce is felt necessary. Reputed organizations like Orissa University of Agriculture & Technology, International Development Enterprises (India), Bhubaneswar and Centre for Community Development, an NGO located at Gajapati District are working on this project. The product is technically developed in OUAT Laboratory and few sample are to be tested to ascertain the Consumers view before going for Commercial production.

A packet of free sample along with a feedback format is provided herewith. Kindly give your valuable views in the format after using the product. The product can be rehydrated in small quantity of water or warm water.

Thank you for your Co-operation.

Authorised Signatory

FEEDBACK FORMAT

1. **Name**

2. **Address**

3. **Age** - < 30 years []

30-40 years []

40-50 years []

50 years above. []

4. **Income level** - < Rs. 50,000 .00 p.a. []

Rs. 50,000.00-100,000.00 p.a. []

Rs. 1.5 lakh- Rs. 2.0 lakh p.a. []

Above 2.0 lakh p.a. []

5. **Family Size (No. Of Members)** []

6. **How do you rate this product according to**

a) **Taste –**

Like very much []

Like []

Neither like nor dislike []

Dislike []

Dislike very much. []

b) Flavour –

Like very much []

Like []

Neither like nor dislike []

Dislike []

Dislike very much. []

c) Sweetness –

Like very much []

Like []

Neither like nor dislike []

Dislike []

Dislike very much. []

d) Freshness –

Like very much []

Like []

Neither like nor dislike []

Dislike []

Dislike very much. []

e) Appearance –

Like very much []

Like []

Neither like nor dislike []

Dislike []

Dislike very much. []

f) Quality of Packing –

Like very much []

Like []

Neither like nor dislike []

Dislike []

Dislike very much. []

g) Colour of the Product –

Like very much []

Like []

Neither like nor dislike []

Dislike []

Dislike very much. []

7. How do you feel if the cost of 100gm Pkt will be fixed at Rs. 12.00 ?

Not affordable []

Very High []

High []

Normal []

Cheap []

8. When do you buy such product usually –

Festival Time []

Seasonal []

Monthly []

Weekly []

9. In your Opinion, whether this is a

Fast moving Consumer product []

Slow moving Consumer product []

10. This product will be used by you for purposes like

Fresh fruit []

Juice []

Fruit Salad []

Pickle []

All the above []

11. Do you feel that a good brand name / Company name is necessary to encourage you to purchase ?

Highly necessary []

Necessary []

Not necessary []

12. After testing the product will you like to purchase further?

Yes []

No []

13. For consumer awareness on this product, one should go for

TV advertising []

Print media advertising []

Retail point display []

Any other in your opinion

(Please Specify)

14. Depending on its taste & nutrient value, it can be used as a

Health food for senior Citizens. []

Fruit drink for children []

Nutritious food for pregnant women []

Breakfast fruit for whole family []

All the above []