



Sensory Evaluation of The Lactogenic Product to Determine Acceptability through Lactating Women

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Abstract

Breast milk is essential for the survival and proper growth of a newborn. Lactogenic herbs and plants play a function in promoting and increasing lactation. Lactogenics are substances that aid in the nutrition of breastfeeding mothers. Aim: 1-To create and standardise nutrient-fortified food items. 2-To increase the amount of milk and nutrients in the mother's milk Methods and materials: Five lactogenic items for nursing mothers were designed and assessed using a hedonic rating scale. A questionnaire was used to conduct the sensory evaluation, which was constructed on a 9-point scale. Thirty lactating women assessors were given a questionnaire. The findings revealed that nursing mothers liked the flavour, fragrance, texture, and look of the goods.

KeyWords:Breastmilk, Lactogenic, Lactating women, Sensory Evaluation

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Introduction

Sensory analysis is the process of inspecting a product using one's senses, such as sight, smell, taste, touch, and hearing, for quality features such as appearance, Flavour, aroma, texture, and sound. The first feature detected by the human senses is appearance, which plays a critical role in the identification and ultimate selection of food. Color, shape, size, gloss, dullness, and transparency all contribute to the visual experience of food. A sensory phenomenon is a term used to describe odour, taste, and mouthfeel experiences. Flavoring chemicals are aromatic compounds that are sensed by the mouth and nose as a mix of taste and odour. Odor enhances the pleasure of eating. Taste's first cousin is aroma. These are volatile substances that are detected by the smell receptors in the nasal cavity's olfactory tissues. During the mastication process, aromatic chemicals are released. Smell evaluates the scent of food, which is crucial in the

as touch, mouthfeel, sight, and hearing, are used to detect texture. It is one of the most essential characteristics of food. Texture is required for the adoption of a variety of meals. It also comprises the size and form of food particles, as well as their consistency, thickness, fragility, and chewiness. (Mian K. Sharif et al., 2017) Breastfeeding is regulated by nutritional and nonnutritional variables that impact milk production and secretion (related with endocrinology, health, climate, and management). These variables influence physiological processes that govern noninfectious agalactias and hypogalactia, the latter of which is the most common condition among nursing mothers. (Tabares et al., 2014) In terms of nutritional content, breast milk outperforms all artificial meals. The World Health Organization (WHO) recommends that an infant be given solely breast milk for the first six months following birth. A newborn's survival and proper growth are dependent on breast milk.

appreciation of flavour. A mix of senses, including

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Breast milk is a superb diet that covers all of a baby's needs for the first six months due to the amount of vitamins, minerals, proteins, carbs, and fats it contains, as well as the superiority of its bioavailability. (Didem ÖNAY DERİN, 2016) Women with low milk supply who do not respond to lactation counselling, as well as adoptive parents who want to stimulate breastfeeding, can use herbal and pharmacological galactagogues to help. (Bazzano et al., 2017) Fenugreek (*Trigonella graecum foecum*), fennel (*Foeniculum vulgare*), goat's rue (*Galega officinalis*), asparagus (*Asparagus racemosus*), anise (*Pimpinella anisum*), and milk thistle are examples of plants that contain galactagogues (*Silybum marianum*). (Tabares et al., 2014) The majority of current galactagogues work by boosting prolactin production and release by the anterior pituitary gland. *Nigella sativa*, *Moringa oleifera*, and *Carduibenedicti* (Blessed Thistle) are all varieties of *Nigella sativa* (Rajagopal et al., 2016) Despite the fact that these galactagogues have been demonstrated to be efficacious and safe, clinical trial evidence is lacking (Buntuchai et al., 2017) Infants who are exclusively breastfed for six months have less gastrointestinal infection morbidity than those who are nursed for three or four months, and no development disadvantages have been seen. Furthermore, the moms of such newborns experience longer extended lactational amenorrhea, and the existing information shows that there are no obvious hazards in advising exclusive nursing during the first six months of life. Galactagogues are chemicals or drugs that are thought to help mothers start, maintain, and

increase their milk supply. (Srinivas et al., 2014) *Moringa oleifera* is a vegetable, a medicinal plant, and a source of cooking oil in the poor world. It belongs to the Moringaceae family. Benzolive, kelor, drumstick tree, horseradish tree, marango, and malunggay are some of the regional names for it. It's a significant food plant that's abundant in nutrients and often regarded as a functional food, with all portions shown to be edible. Its roots, bark, leaves, flowers, sap, fruits, and seeds have been credited with a wide range of nutritional, preventive, and therapeutic properties. *Moringa oleifera* is an incredibly important food source. It is said to be a great native source of highly digested protein, calcium, iron, potassium, vitamins, trace metal ions, vital amino acids, antioxidants, and carotenoids that can help battle malnutrition in many underdeveloped countries throughout the world. Pregnant ladies healed completely from anaemia and gave birth to kids with larger birth weights. *M. oleifera* was also found to enhance lactation, confirming suggestions that it is a galactagogue. *M. oleifera* enhanced appetites and increased milk output. (Alegbeleye, 2018)

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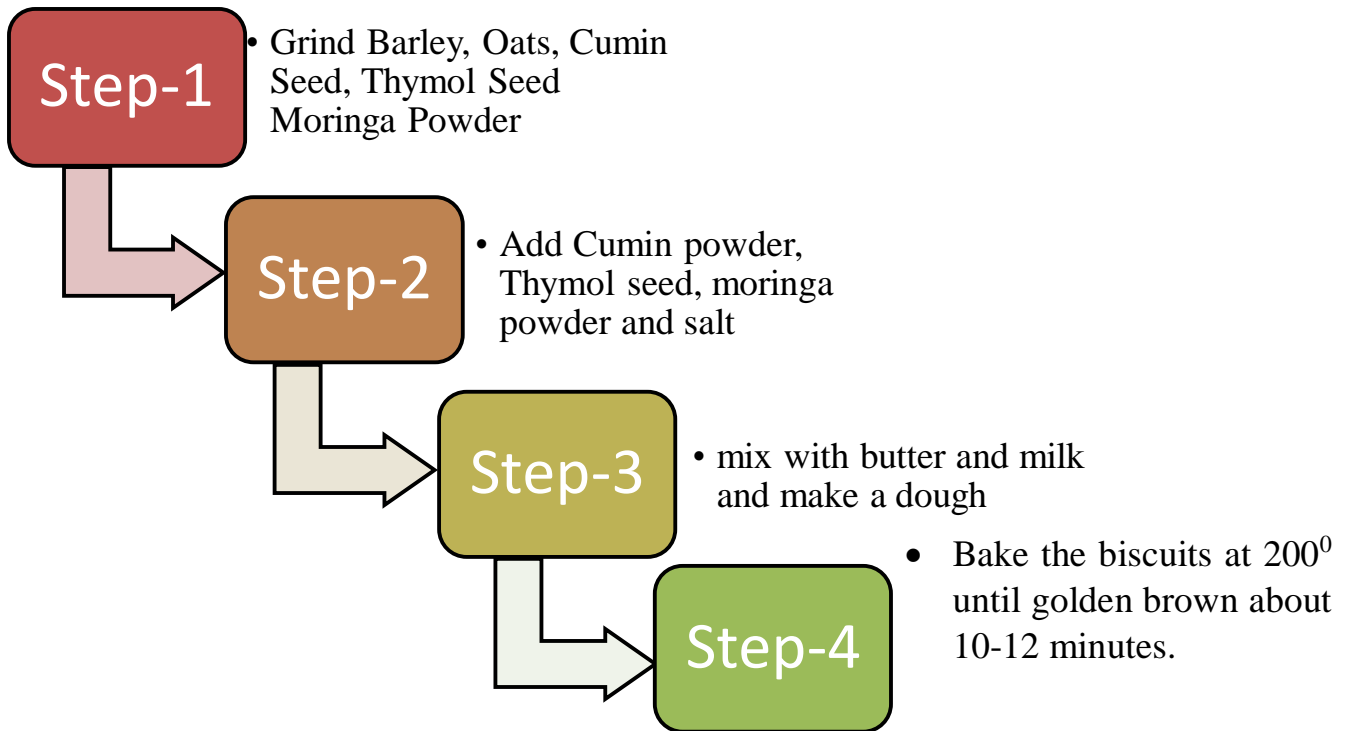
Material And Methods

Five lactogenic products for lactating mothers were developed in this study. Product 01: Barley and Oat Biscuits, Product 02: Flax and Sesame Seed Burfi, Product 03: Dry Fruit and Sesame Seed Halwa, Product 04: Oat Nuggets, Product 05: Moringa Soup.



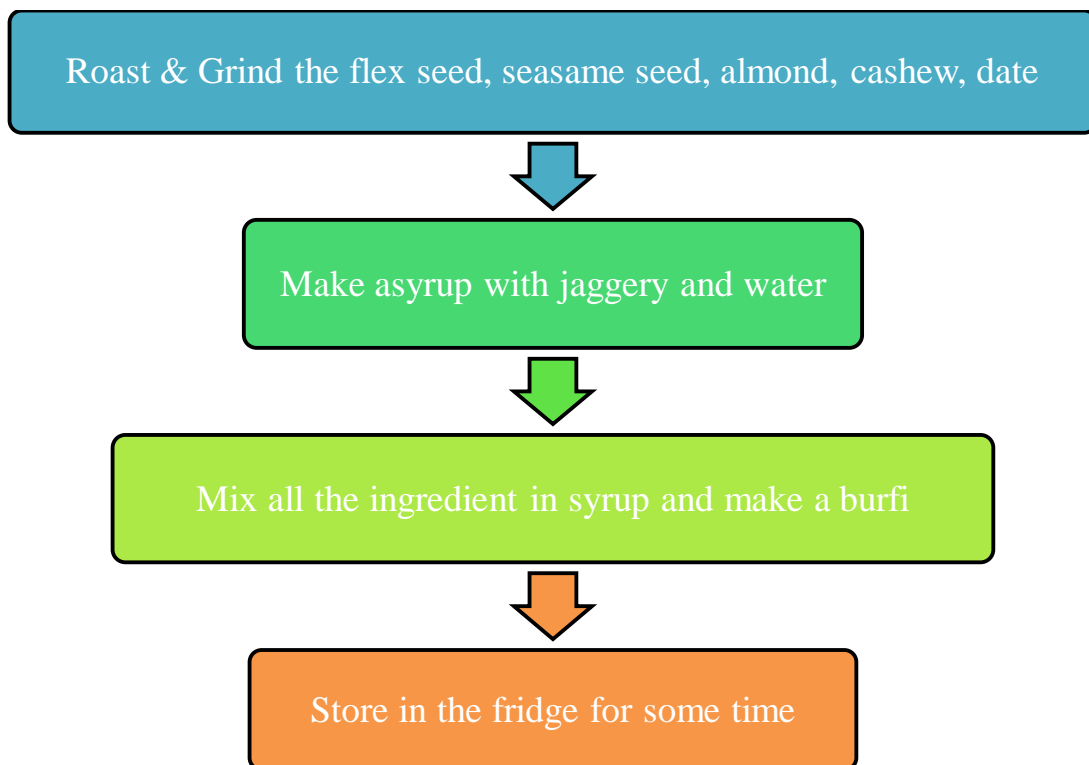
Product-01

Barley, Oats, Butter, Cumin Seed, Thymol Seed, Moringa Powder, Salt



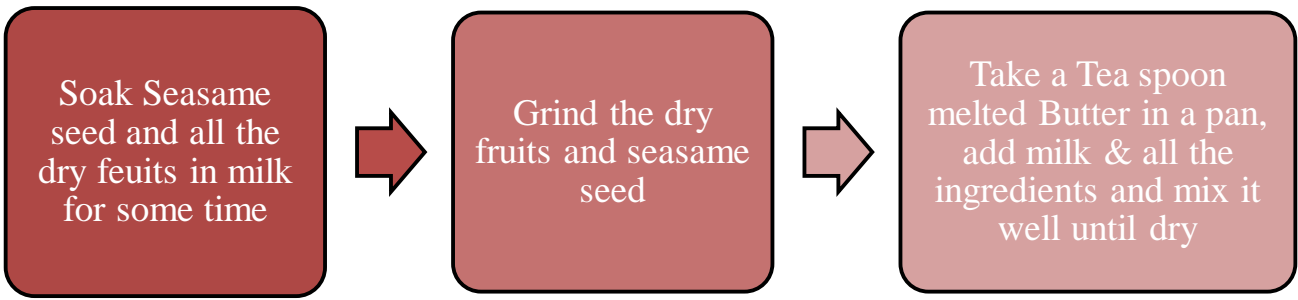
Product-02

Flax Seed, Sesame Seed, Almond, Cashew, Date, Moringa Powder, Ghee, Jaggery, Water



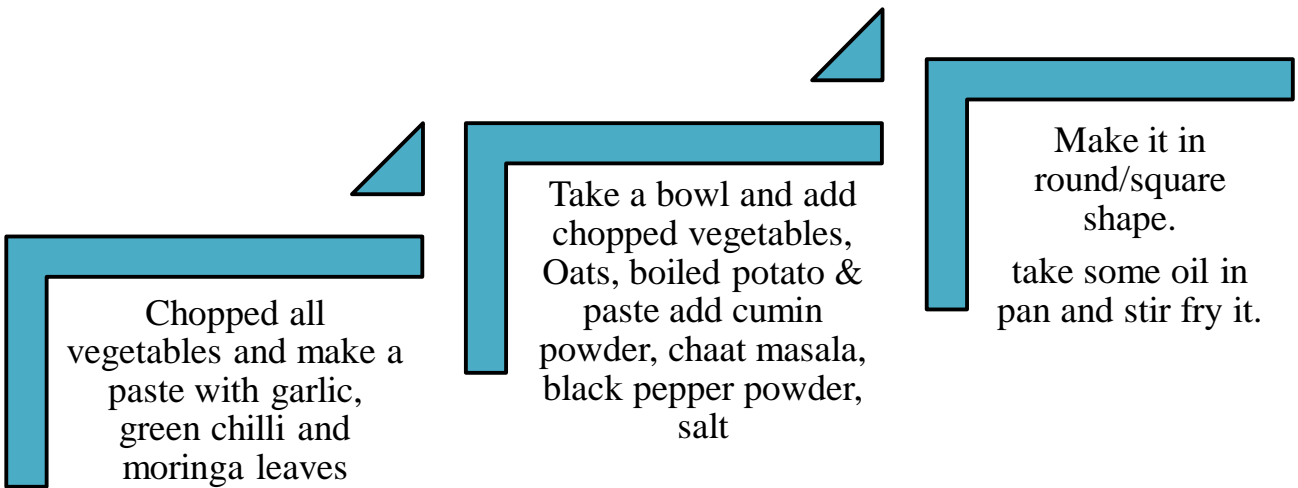
Product-03

Almond, Cashew, Walnut, Date, Raisin, Sesame Seed, Moringa Powder, Milk, Ghee



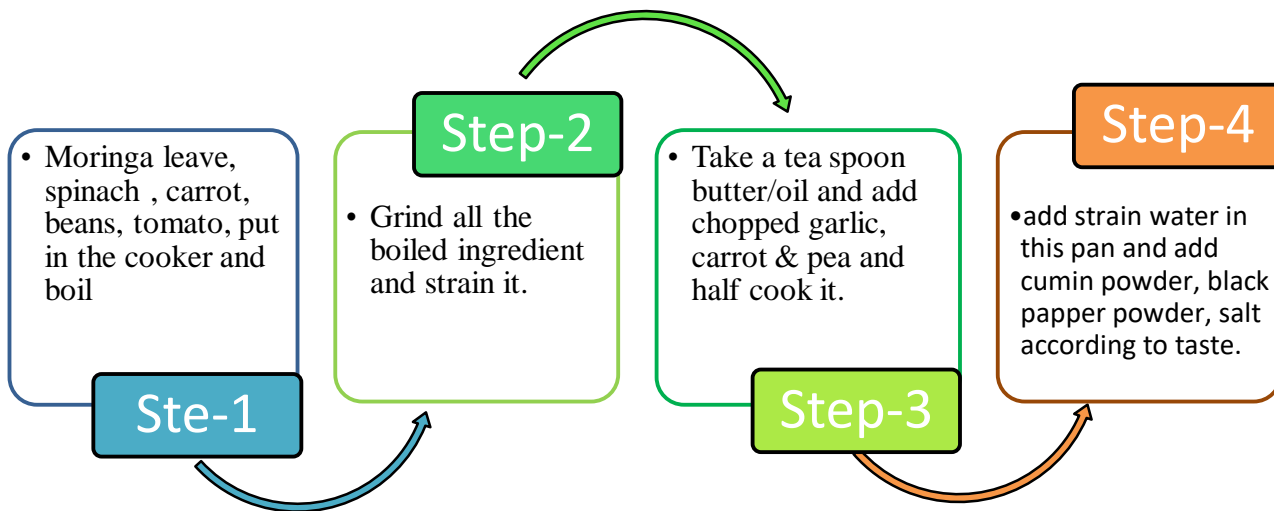
Product-04

Oats, Carrot, Beans, Cabbage, Moringa Leave, Boiled Potato, Coriander Leave, Garlic, Green Chili, Salt, Chaat Masala, Cumin Powder, Black Pepper Powder



Product-05

Moringa Fruit/Leave, Spinach, Beans, Tomato, Carrot, Pea, Butter/Oil, Garlic, Cumin Powder, Salt, Sugar, Black Pepper Powder



The lactogenic product testing was carried out utilising a standardised questionnaire based on the 9-point hedonic rating scale (Adibe et al., 2018), which was delivered to 30 lactating women evaluators. Evaluators rank products based on their appearance/color, taste/flavor, smell, texture/mouthfeel, and texture/mouthfeel: 1-like extremely, 2-like moderately, 3-like very much, 4-like slightly, 5-neither like nor dislike, 6-dislike slightly, 7-dislike very much, 8-dislike moderately, and 9-dislike extremely. Before the evaluators were

authorised to participate in the lactogenic product testing, they were given a thorough explanation of the sensory assessment method. Statistical analysis was performed on the data using Microsoft Office Excel and SPSS.

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Results And Discussion

The lactogenic products received high sensory assessment scores. It is presented in a table-top format.

Table 1 shows the mean scores of lactogenic products.

Products	Texture/Mouthfeel	Smell/Odour	Taste/Flavour	Appearance/Colour
	M±SD	M±SD	M±SD	M±SD
Product 01	2.23±0.93	2.63±1.35	2.43±1.43	2.73±1.41
Product 02	2.43±1.25	2.13±0.89	2.50±1.33	2.86±1.33
Product 03	2.36±1.24	2.13±0.89	2.30±1.26	2.56±1.45
Product 04	2.63±1.32	2.96±1.58	2.60±1.27	2.73±1.01
Product 05	2.80±1.39	2.50±1.22	2.40±1.35	3.03±1.49

The texture, smell, taste, and appearance of all lactogenic products are shown in Table 1. Product 05, for example, receives the greatest score in terms of look and colour. Following that, among

other things, product no. 4 has a higher score for scent. Moringa is a prevalent ingredient in several products. These five items now include moringa leaves. This is a lactogenic food that is quite easy to



obtain. The writers created these five items to help enhances human milk production. nursing mothers produce more milk. Moringa

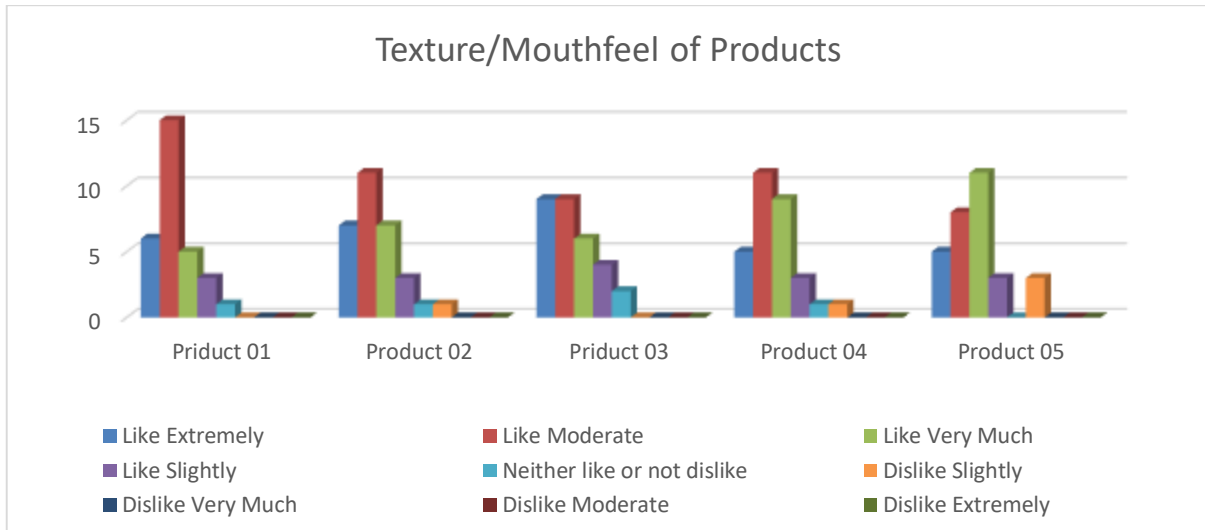


Figure 1: Texture/mouthfeel of all lactogenic products

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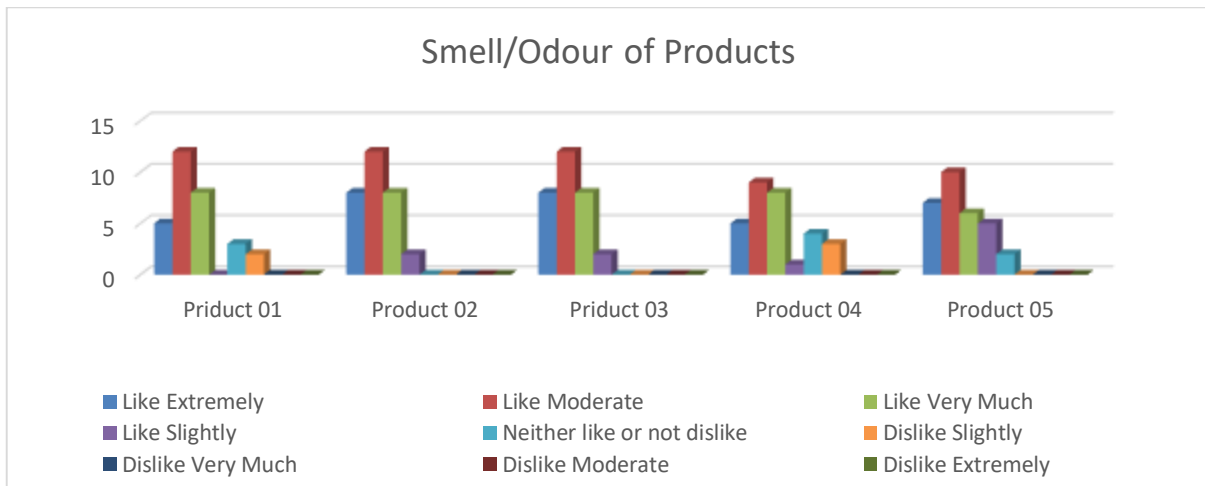


Figure 2: Smell/Odour of all lactogenic products

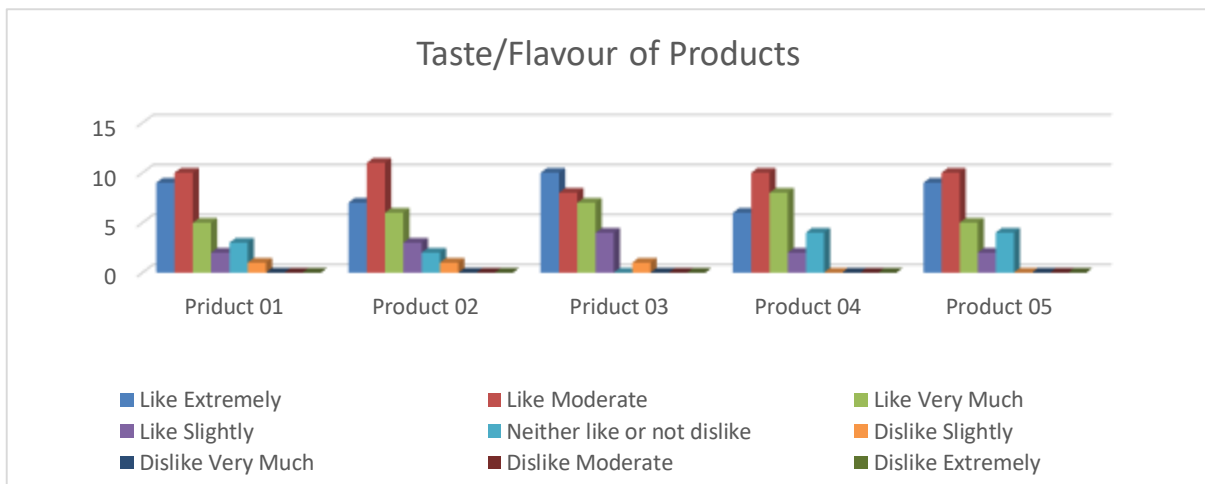


Figure 3: Taste/Flavour of all lactogenic products



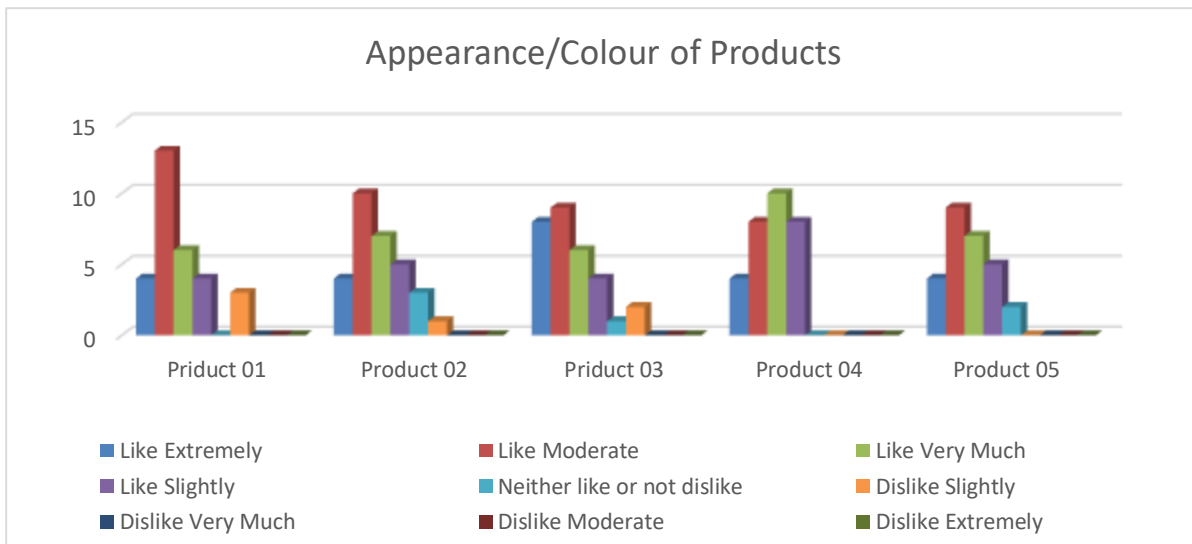


Figure 4: Appearance/Colour of all lactogenic products

Table 2: Pearson correlations among hedonic rating

	Product 01	Product 02	Product 03	Product 04	Product 05
Product 01	1				
Product 02	.981**	1			
Product 03	.972**	.988**	1		
Product 04	.979**	.973**	.962**	1	
Product 05	.989**	.984**	.979**	.988**	1

**correlation is significant at the 0.01

Table 2 shows that the Pearson correlation among hedonic qualities between all-lactogenic products was significantly higher ($p > 0.01$) than the Pearson correlation among hedonic attributes.

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