



Studies on Effect of Fat Levels on Sensory Quality of Peda

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ABSTRACT

Dietary fat is a topic of intense discussion, mostly from the point of view of energy reduction. In a recent study, fat content was the most important motivator in the choice of calorie-reduced dairy products. In the present investigation an attempt has been made to study the sensory evaluation of peda at different treatment combinations. Results related, sensory attributes of peda control (T₁) and peda with different level of milk fat viz. 4.5, 3, and 1.5 per cent (T₂, T₃ and T₄) are as, from the results it was observed that, use of different level of milk fat viz. 6, 4.5, 3, and 1.5 per cent. Control peda rated highest score for colour and appearance (8.63), body and texture (8.75), sweetness (8.75), flavour (8.63) and overall acceptability (8.75) than peda prepared from different milk fat. The score was significantly higher than the peda with different level of milk fat that is 4.5, 3, and 1.5 per cent. However, control peda and peda with 4.5% level of milk fat was rated good and acceptable.

Keywords: Sensory Quality, peda, Dietary fat

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INTRODUCTION

Today people are very conscious related to daily diet specially dairy product hence, it is demand of people to have low calories dairy food. Now a day's consumer prefers such product which do not have bad affect on health. India rank first in the world with record production of 146.31 million tons of milk per annum with per capita availability 302 gm/day (2015-16). Out of the total milk produced in India, 46 % is consumed as liquid milk, 4 per cent converted into western milk products such as milk powders, processed butter and processed cheese and remaining 50 per cent is converted into traditional dairy products such as *Ghee/ Makhan* (clarified butter), *Dahi* (Yoghurt-like), *Khoa* (Partially desiccated milk product) and *Chhana* and *Paneer* (unprocessed cottage cheese). Out of these 7 per cent of milk is used for the manufacture of *khoa* based sweets as *peda*, *burfi*, *kalakand*, *milkcake* etc. (*Handbook on Technology of Indian Milk Products*). Buffalo milk is preferred over cow and goat for preparation of milk products such as *paneer*, *basundi*, *khoa* and *khoa* based sweets (*Peda*, *burfi*, *kalakand*, *gulabjamun* etc.) because it gives soft and uniform body with smooth, compact and homogenous texture to finished products. *Khoa* occupies a prominent place in traditional dairy products sector. *Khoa* is the product obtained from cow, buffalo, goat or sheep milk/milk solids or a combination thereof by rapid drying of milk having fat content should not be less than 20 per cent of the finished product [8]. Varieties of *khoa* are produced in the market such as *pindi*, *dhap* and *danedar* and used for preparation of *peda*, *burfi*, *gulabjamun* and *kalakand* respectively [4].

MATERIALS AND METHODS

Buffalo milk required for the study was procured from the Dairy of Natural Milk Pvt, Ltd, Latur and standardized as per treatment.

Treatment details

T₁ - Buffalo milk of 6 per cent fat + 30 per cent sugar.

T₂ - milk of 4.5 per cent fat + 30 per cent sugar.

T₃ - milk of 3 per cent fat + 30 per cent sugar.

T₄ - milk of 1.5 per cent fat + 30 per cent sugar.

The different levels were tried and compared with control (T₁).

Milk was standardized by using Pearson's square method.

Flow diagram for preparation of *peda*

The *Peda* was prepared with standardized method separately for each treatment as shown in following flow chart

Sensory evaluation

Sensory evaluation of *pedha* was carried out by a panel of judges comprising "9 point Hedonic scale".

Analysis

The samples of finished product from various treatment combinations were chemically analyzed for moisture [7], fat [6], Protein by Micro Kjeldhl's method (1940), the protein content was obtained by multiplying per cent nitrogen of sample by factor of 6.38. and ash [3], total solid [5], Total sugars by the volumetric (lane-Eynon) method as a described in ISI [6].

RESULT AND DISCUSSION

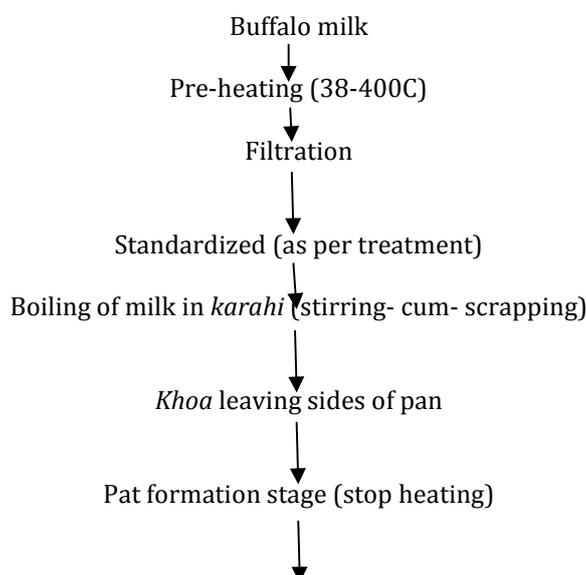
Sensory Properties

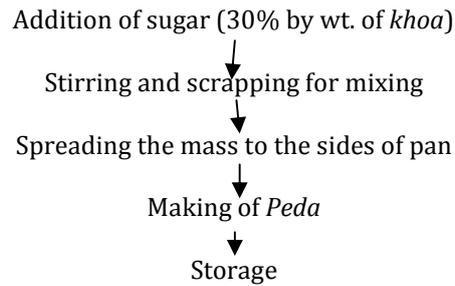
The difference colour and appearance score for treatments T₂, T₃ and T₄ found non significant different. And for **Body and texture** found significant different. **Mean score of sweetness** for treatments T₁, T₂, and T₄ found significant different. Whereas, the treatments T₂, T₃ and T₄ found non significant different. **Flavour** score decreased from treatment T₁ to T₄. Mean overall acceptability score decreased from treatment T₁ to T₄. Mean overall acceptability score was observed 8.75, 8.13, 7.73 and 7.25, respectively. The treatments T₁, T₂, T₃ and T₄, found significant different. This might be due to the level of fat in milk used for preparation of *peda*. The results indicated that the overall acceptability score had decreasing trend with decrease in fat per cent of milk used. Mean overall acceptability score given in table. The similar findings were observed by Varma *et al.*, [11] who found that, as the fat level in milk increase the body and texture score of milk cake prepared from cow milk increases significantly. Sivakumar *et al.*, [10], during preparation of low fat sweetened *dahi* by addition of soya protein Isolate and carrot juice. Amir Hosein *et al.*, [1], observed that, as the fat content of yogurt decreased by using sesame oil as fat replacer, the sensory score for colour and appearance was decreased. Anil Kumar *et al.*, [2], prepared milk cake by using different fat milk viz. 4%, 5% and 6% and reported that, as the level of fat in milk increases it also significantly increases body and texture score for milk cake.

Table1. Overall acceptability score of *peda* prepared using different fat level

Treatment	Replication				Overall Acceptability
	Colour & Appearance	Body and Texture	flavour	Sweetness	
T1	8.50	9.00	9.00	8.50	8.75 ^a
T2	8.00	8.25	8.25	8.00	8.13 ^b
T3	7.90	7.50	8.00	7.50	7.73 ^c
T4	7.50	7.50	7.00	7.00	7.25 ^d

Flow diagram for preparation of *peda*





REFERENCES

1. Amir Hosein Alimoradi, Seyed Ali Yasini Ardakani, Hassan Mozaffari-Khosravi, Mohammad Daneshi, Alireza Shirzadi (2013) Using Sesame Oil as Fat Substitute in Yogurt. *World Sciences Journal*, 04: 208-216.
2. Anil Kumar, Patil G. R., Singh R. R. B. and Patel A. A. (2014) Effect of processing variables on the sensory quality of milk cake *Indian J. Dairy Sci.*, 67(5), 375-381.
3. AOAC (1975). *Official Methods of Analysis of the Association of Official Analytical Chemists* (Pub. Association of Official Analytical Chemists, Washington, USA).
4. De, S.C. (1980). *Outline of Dairy Technology*, Oxford University Press, Bombay. pp: 385-389
5. IS: 1479, (Part II) (1961). Method of test for dairy industry. Rapid examination of milk. Indian Standard Institution Manak Bhavan, New Delhi.
6. ISI: 1224 (Part II) (1977). Determination of fat by Gerbers method (Part II) Indian Standard Institution, Manak Bhavan, New Delhi.
7. ISI: 2785 (1964). Specification for Ice Cream (Indian Standard Institution, Manak Bhavan, New Delhi).
8. Krupa Hirpara, Patel H.G., Gokhale A.J. and Patel A. M. (2016) Effect of Level of Fat on Compositional, Physico-Chemical, Rheological and Sensory Attributes of Processed Cream Cheese Based (PCCB) Spread *Indian J Dairy Sci.*, 69(1): 1-7.
9. Sivakumar, S., S.K. Devatakal, S. Balasubramanian, D.M. Kadama, A.K. Biswas and J. Sahoo (2010) Quality Characteristics of Low Fat Sweetened Dahi Formulated with Soya Protein Isolate and Carrot Juice. *Indian J. Dairy Sci.*, 63(2): 86-91.
10. Varma, R. V., Reddy, K. Y., Sarma, K. S., Shive Kumar and Kumar, Ravi (2005) Process optimization of milk cake using cow milk. *J. Food Science Technology*, 42(2): 167-169.
11. Shive Kumar and Kumar, Ravi (2005) Process optimization of milk cake using cow milk. *J. Food Science Technology*, 42(2): 167-169.

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