# CONSUMERS' ATTITUDE TO MILK POMADE SWEET – SHERBET CONSUMPTION AND ITS QUALITY ON THE SALES NETWORK OF LATVIA

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**Abstract**

Sherbet with crunchy peanut chips could be classified as milk pomade. It is one of popular sweets in Latvia produced by Joint-stock Company *Laima*, which is one of the oldest producers of sweets in the Baltic States. Freshly made sherbet is soft and savoury but after several days' storage at the open air gradually hardens, the product loses eye appeal, taste and becomes unmarketable. This problem limits the shelf life, so sherbet with crunchy peanut chips can be marketed only at the local market. The target of this study was to clarify the situation on the market in Latvia and to examine an issue of Latvian consumers' awareness of milk pomade sweets – sherbet quality indicators, packaging and its presentation to consumers, as well as the sherbet market expandability. A questionnaire was developed – 800 respondents answered on the 14 questions – how well-recognized the milk pomade sweet – sherbet is, what the main features for this kind of sweets selection by consumers are, which quality indices are important for consumers. One of most important questions was to get know the consumers opinion about sweets, mainly sherbet possible packaging kind and the market turnover.

Summarizing the questionnaire data, the response from consumers in Latvia was heartening – they like milk pomade candies. As a primary quality defect the hardness of sherbet was mentioned. Eliminating this main failing of quality, the demand of sherbet on the market could rise, as well the product marketing opportunities will grow.

**Key words**: sherbet quality, consumers, consumption.

## Introduction

The confectionery industry is enormous ranging from small shops to branches of the largest companies in the food industry. The sweets are divided into three classes: chocolate, flour and sugar confectionery. Manufactures of most modes of confectioneries are not science-based professionals an exception to this is development of products resembling sugar confectionery but free of sugar, where more scientific efforts have been required (Quinton and Kennedy, 2002; Manley, 1998). Milk pomade sweets are one of the sugar confectionery products and usually contain sugar, glucose syrup, water, condensed milk; it may also contain nuts depending on product category. The shelf life of milk pomade sweets depend on several parameters including: storage temperature and humidity, availability of oxygen in the immediate environment, directly related to packaging material used, as well as the addition of other ingredients such as fats, nuts etc. (Raisi and Aroujalian, 2007; Labuza et al., 2004).

The formulation and marketing of consumer products today have become a very complex operation in which both sensory testing and market research have important parts to play. Both disciplines are united by a common goal to produce a product with an optimum combination of product attributes, compatible with manufacturing costs that will sell successfully and profitably in the market place. Yet despite this common goal, the different requirements of technical and marketing personnel have led to the separation of and too little interaction between the two disciplines. There are, however, techniques and approaches used by both the sensory and market researcher which, combined, can make for improved product testing (Wilton and Greenhoff, 1988).

Food choice is not determined solely by the perceived properties of a foodstuff. It depends on personal attitude towards the attributes a product possesses. Consumer responses are vital in the development of a product if it is to compete successfully in the market place (Frances and Piggott, 1991-1992). There are wide varieties of market research procedures which could be used to elicit information about product attributes, and to measure attitudes and beliefs. These include unstructured spontaneous techniques, such as interviews and projective methods, through to highly structured methods, such as dissimilarity scaling where appropriate statistical procedures are used to obtain product spaces (maps) and identify salient product dimensions (McEwan and Thomson, 1989).

Sugar confectionery has been developed over the centuries with increasing sophistication, and it exists in countless formats with different degrees of sweetness, flavours and aromas, textures and mouthfeel. Confectionery serves a very simple purpose; the rush of sweetness coupled with pleasant flavours, aromas and mouthfeel provokes an almost instantaneous feeling of well-being and happiness. Sugar confectionery by definition is meant to include products that contain predominantly one form or another of the following sugars: sucrose (usually cane or beet sugar); dextrose (otherwise known as glucose, usually corn sugar); fructose (often referred to as fruit sugar) or lactose (otherwise known as milk sugar) (Zumbé et al., 2001).

The raw materials for food production are biological systems, therefore serious difficulties originate for the stockholder Laima, Latvia concerning to provide the texture of finished products (Blija and Galoburda, 2008) that are changeable. The texture changes of milk pomade

sweets (moisture content increase and corresponding hardening) are observed during the storage time; therefore, development of methods to estimate objective information regarding raw materials' and finished product structural features is a vital issue (Blija and Galoburda, 2008).

Freshly made sherbet is soft and savoury but after several days' storage at the open air gradually hardens, as it has been observed at the market place and laboratories, the product loses eye appeal, taste and becomes unmarketable. This problem limits the shelf life, so sherbet with crunchy peanut chips can be marketed only at the local market (Vorma et al., 2010). On the market place peanut sherbet for the time being could be found only in bulk carton transport packaging boxes by 5 to 10 kg in each. In this case the product is in contact with oxygen promoting the hardening and possible fat oxidation. Sherbet is recommended to keep + 18 ± 3 °C. The development of attractive small amount consumer packaging should be necessary to be implemented on the market.

*The target of this study was* to clarify the situation on the market in Latvia and examine an issue of Latvian consumers' awareness of milk pomade sweets – sherbet quality indicators, packaging and its presentation to consumers, as well as the sherbet market expandability.

Consumers' evaluation is based upon their own individual experience and particular liking and disliking of sherbet (Wilton and Greenhoff, 1988).

## Materials and Methods

To analyze the situation on the market of Latvia and to study a Latvian consumer's attitude to milk pomade sweet – sherbet consumption and its quality on the sales network of Latvia, a questionnaire was developed – 800 respondents (32% men and 68% women) answered 14 questions – how well-recognized the milk pomade sweet – sherbet is, what the main features for this kind of sweets selection by consumers are, which quality indices are important for consumers. One of most important questions was to get to know the consumers opinion about sweets, mainly possible kind of sherbet packaging and the market turnover. Respondents were asked to evaluate the quality of sherbet, likeness, consumer demand and the packaging options. 11 questions were related to the product (sherbet); three questions of all the questions were related to obtaining basic information about the self. Seven of the questions were formulated in yes - no ones, or given the opportunity to give respondent's own answer. Other issues were presented so that the respondent can easily comment, noting some of the given multiple-choice or by assigning the preferable view. Data collections were used by all 800 respondents who completed questionnaires.

The results were processed by mathematical and statistical methods. Statistics on completely randomized design were determined by using the General Linear Model procedure SPSS 16.00.

## Results and Discussion

Division of respondents according to their age is presented on the Fig. 1.

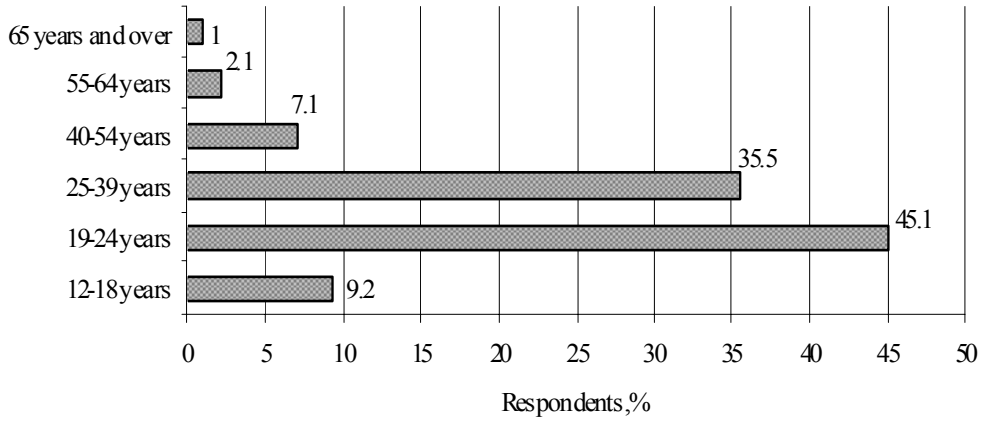


Figure 1. Respondents' division according to their age, %.

Generally, the respondents were in the age up to 40, who are also considered as the main consumers of milk pomade sweets. The top questions of inquire were to get information from consumers regarding sherbet identification on the market of Latvia, about its liking/disliking as well as its purchasing frequency. A fact was established that 96.4% of respondents recognize the milk pomade sweet – sherbet, only 3.6% are not familiar with this kind of sweets. Majority of consumers (80.8%) admit the sherbet as tasty sweet, while 19.2% of respondents do not enjoy it because it is too sweet, some people do not like the main ingredient of sherbet – nuts. Analyzing the consumption frequency of sherbet it has been ascertained that 69% of enquired persons seldom purchase the sherbet, 8.2% – at least once a month, but nobody purchases more frequently (Fig. 2). An interesting answer is that 22.8% of inquired consumers never purchase sherbet themselves; nevertheless, when feasted, willingly have eaten it.

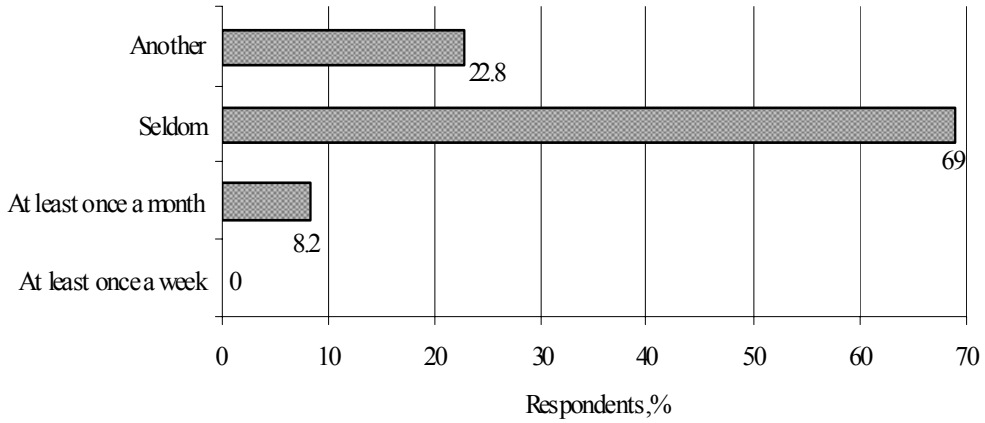


Figure 2. Purchasing frequency of sherbets, %.

The major fixed quality indices of sherbet stated in laboratory examination were as follows: shape and looks like place, color, cut and breach place, hardness, taste and smell. The significance of indicated indices respondents have noted as insignificant, important, very important (Fig. 3).

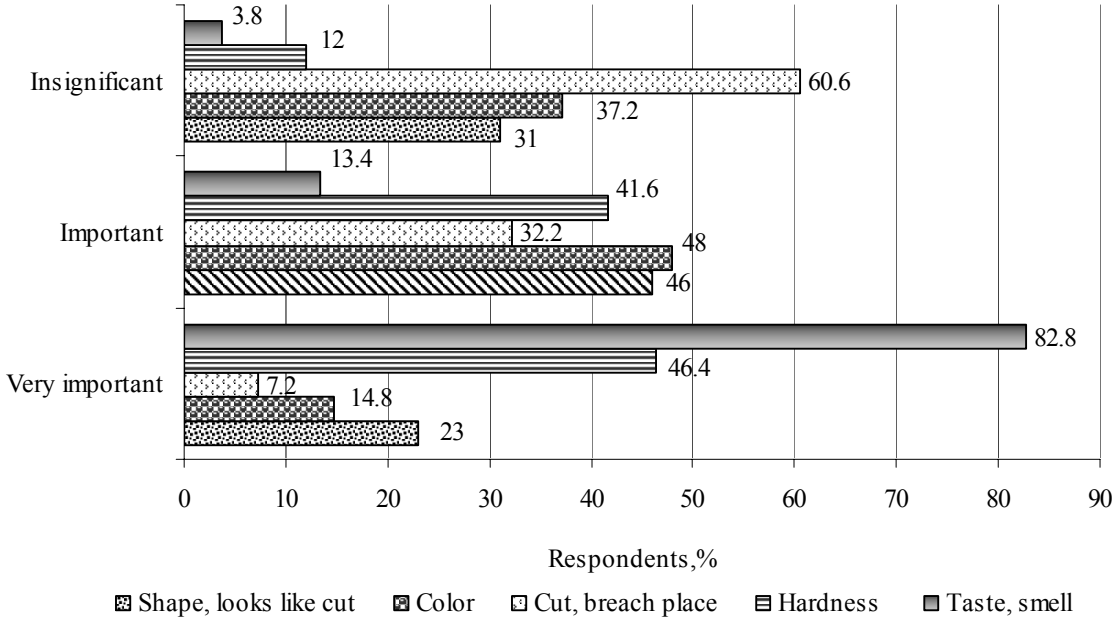


Figure 3. Significance of the sherbet main quality indicators.

Majority of respondents (82.8%) taste and aroma considered as important properties of quality, hardness of sherbet – 46.4% and 41.6% respectively considered as very important and important. Looks like cut, cut and breach place seem insignificant characteristics for consumers. The respondents were asked to evaluate the most frequently observed defects of sherbet (Fig. 4).

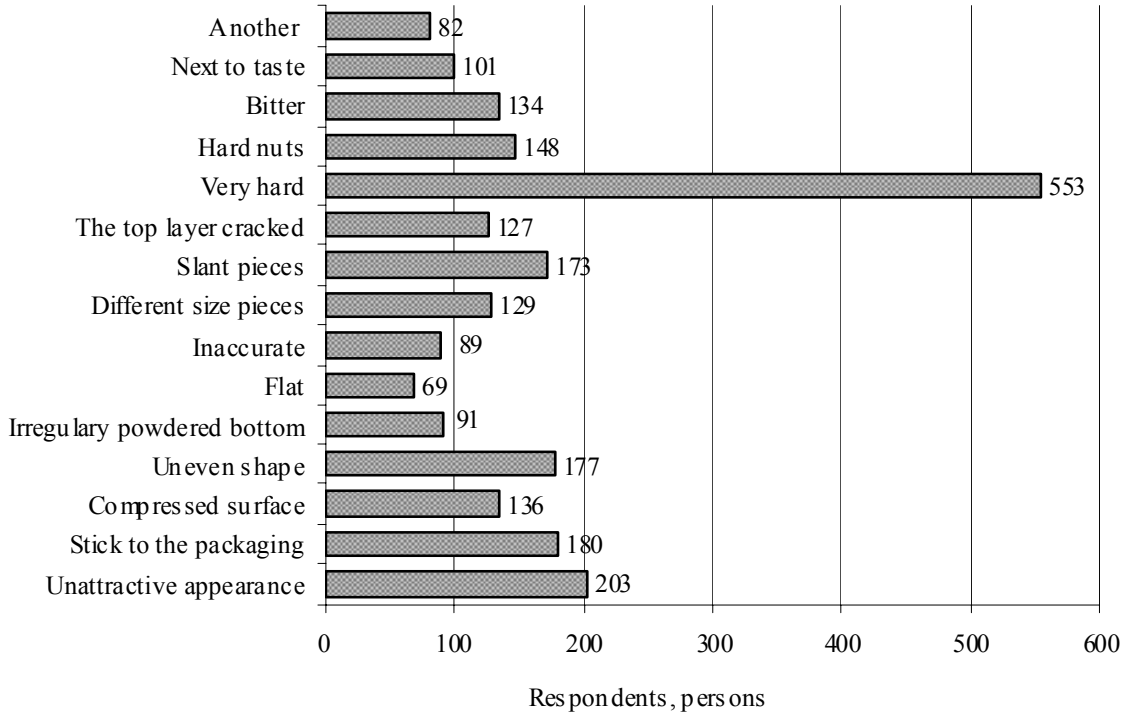


Figure 4. Consumers' most frequently observed defects of sherbet.

Hardness was mentioned (553 people) as consumers' most frequently observed defect of sherbet. This defect could be explained because of the sherbet availability on the market at this moment marginally as good sold by weight; therefore, the moister content has been lost and sherbet hardens very fast. The authors have done a study on sherbet hardness changes during storage and found out that sherbet offered on the local market rapidly solidifies after two weeks of storage (Vorma et al., 2010). This is the main reason why consumers often choose other sweets available on the market instead of sherbet. Defects on other kind mentioned by respondents were crannied upper layer, indistinctive taste, and different sizes of pieces, unattractive appearance, which also could be connected with the way of product distribution. This defect could be avoided by appropriate small size packaging. One of sometimes mentioned defects was irregular pieces of product, which could be explained by heterogeneous nuts consisting mass of sherbet. Sometimes the pieces of sherbet are flat compressed. This defect is caused by bulk packaging of 5 kg in carton boxes when the freshly made product pieces could be mechanically compressed.

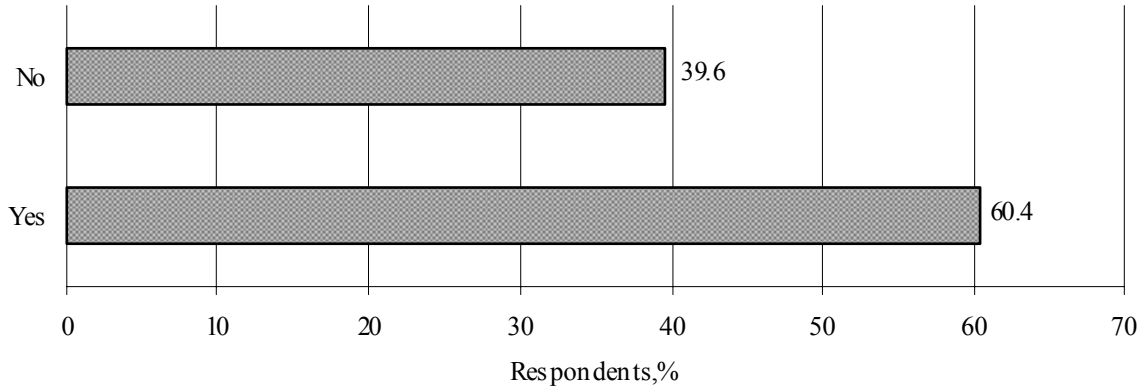


Figure 5. Does the packaging material and design affect the consumers' choice of product when purchasing it?

Some questions were asked to respondents to specify their attitude to packaging design, as well as how those features affect the consumers' choice of product on the market. Majority of respondents (60.4%) admit the effect of packaging material and design on the choice of product when purchasing it (Fig. 5). The rest of respondents (Fig. 6)

(48%) have not been influenced by packaging design. A small part of consumers (1.8%) answered that they are not sure about any packaging material significance. Presumably, the demand of sherbet could be increased by successful packaging material option with attractive design. (Fig. 5**)**

A couple of questions were asked regarding significant packaging influence on sherbet quality during the storage time. The greatest part of respondents (50.2%) considers their knowledge about packaging influence on the product quality during the storage time (Fig. 6.), while 48% of respondents generally were not informed about this phenomena. Only few of respondents (1.8%) had another points of view – they were not sure about the influence or admit that there might be one, still they have never had a chance to get informed about it and check it themselves.

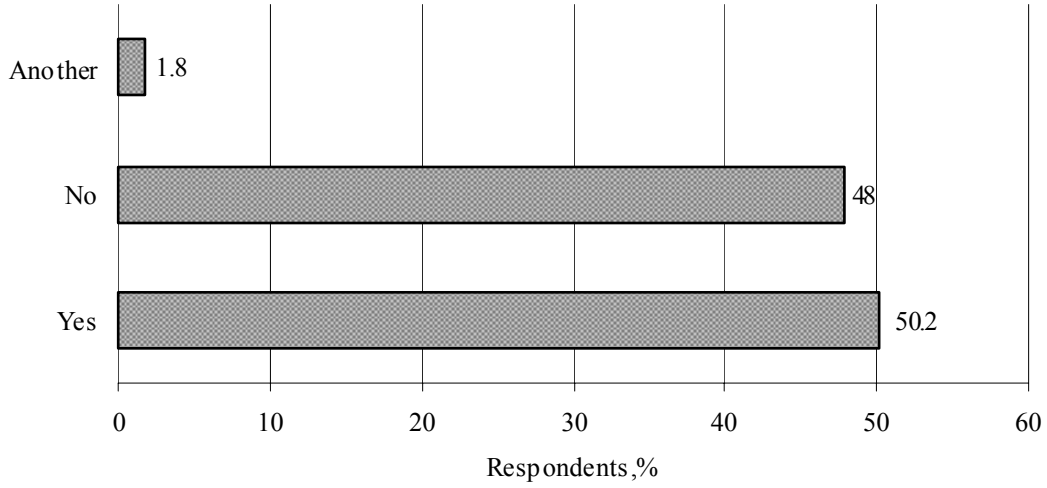


Figure 6. Consumers' information on the packaging influence on sherbet quality during storage time.

The majority of respondents' view (47.2%) regarding the desiderate weight was that there should be 180 g or 6 pieces sherbet in one small packaging (Fig.7.).

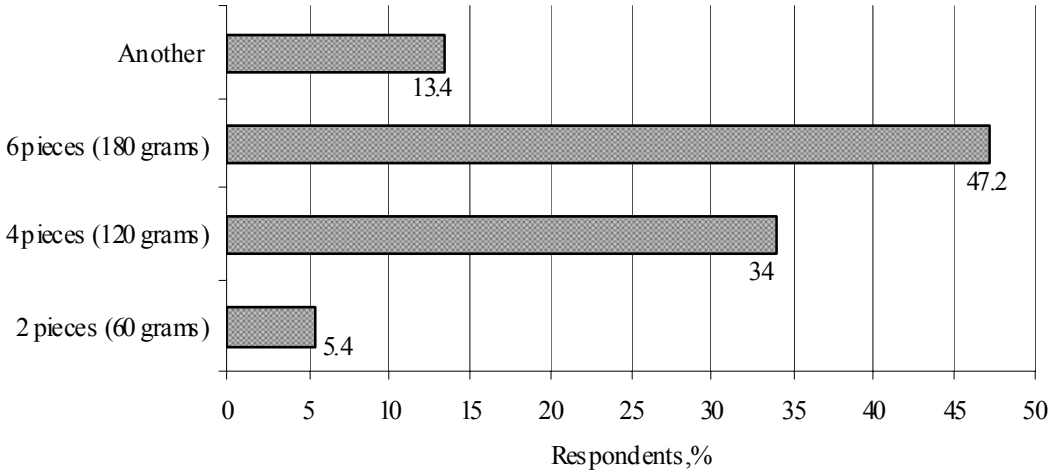


Figure 7. Respondents' view regarding desiderate weight of sherbet in one packaging.

Respondents' view regarding selling places of milk pomade sweet – sherbet in small packaging is that the most suitable for this kind of product could be shops (39.4%); however, 31.7% of respondents would be willing to purchase this product in vending machines, 22.9% – don't raise an objection to sell sherbet in the coffee-bars of educational establishments.

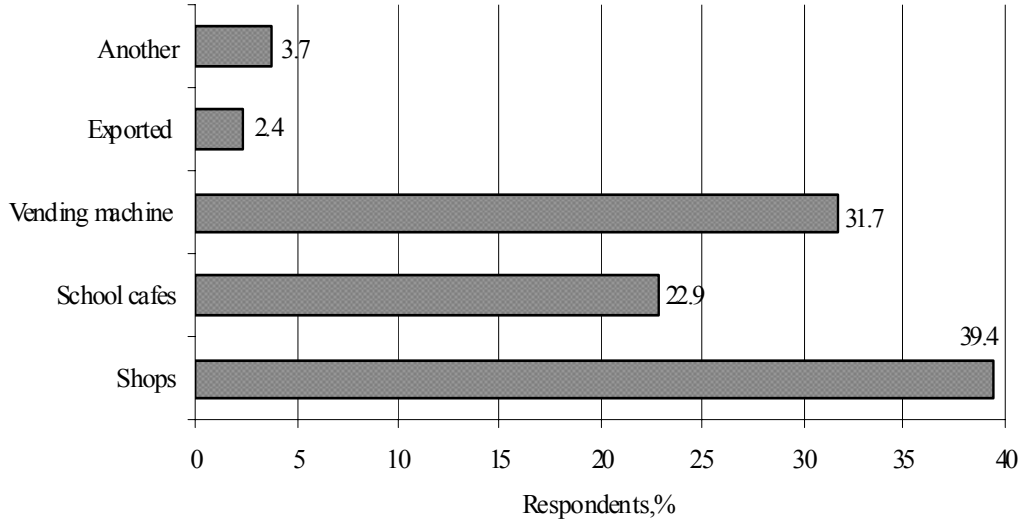


Figure 8. The possible selling places of sherbet in small packaging.

Other proposals mentioned for selling of sherbet in small packaging were petrol stations, theatre coffee-bars, news-stands, sporting activities, and fairs. The weight of sherbet in one small packaging might depend on some of already mentioned selling arrangements.

Part of respondents was school children; therefore, the question was raised whether sherbet is considered to be healthy sweet. Less than half of respondents (41%) were not sure about it (Fig. 8), 25% of respondents were of the opinion that sherbet is healthy and they could willingly purchase this sweet.

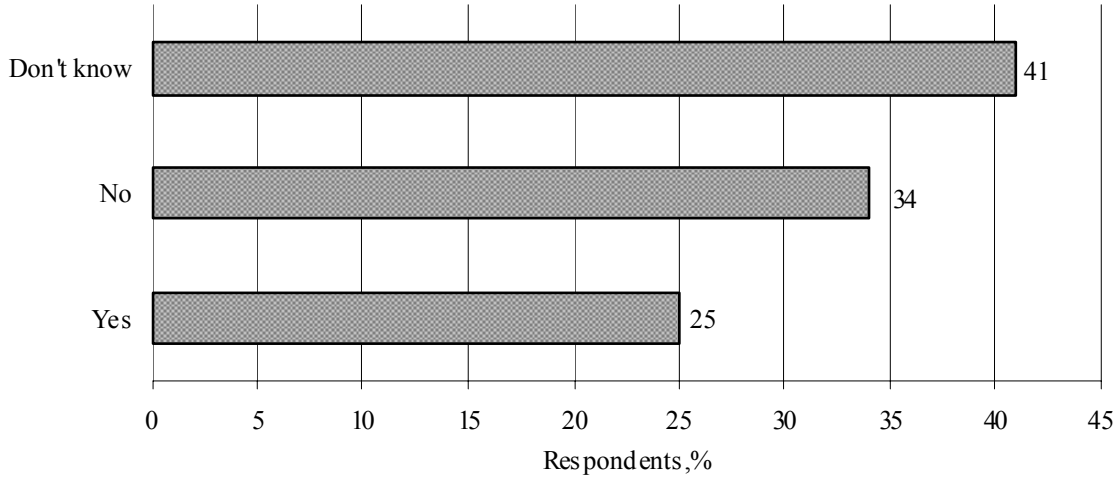


Figure 9. Respondent's view whether: sherbet is healthy sweet.

Parents support the idea that if there were an opportunity to buy sherbet in school's coffee-bars and vending machines instead of imported production, pupils would gladly do it and purchase locally produced sweets. In regulations issued by the Cabinet of Ministers Nr. 610 "The hygiene requirements for basic, all-round and professional educational establishments" ("LV", 2 (2767), 07.01.2003.) section of catering in schools there is a regulation that food additives sold in schools must not contain sugar confectionery. Given that sherbet does not contain any of food additives that are on the regulation lists, it is recommended for selling in schools.

## Conclusions

The consumers in Latvia are willing to purchase milk pomade sweet – sherbet on the local market. The main quality defect of sherbet is its fast hardening for which consumers do not like it. The small packaging and quality assurance of sherbet could increase te level of its consumption. Respondents' opinion regarding the weight of sherbet in one small packaging differs, but mainly it is mentioned as 2 – 6 pieces in one unit of packaging.

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