

Training on Making Dadih from Goat's Milk to Overcome the Problem of Stunting in Deli Serdang Regency

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ABSTRACT

According to the 2021 Indonesian Toddler Nutrition Status Survey, North Sumatra Province reported the fifth-highest number of children with stunting in Indonesia, totaling 383,403 stunted toddlers. Stunting is also prevalent in Deli Serdang Regency. The problem of stunting is a nutritional problem whose phenomenon spreads at all levels. Stunting or a condition of growth failure in children under five due to chronic malnutrition, especially in the first 1000 days of birth. The community service has been carried out in STM Hilir subdistrict, Deli Serdang Regency. In this community service, the target characteristics are community of mothers who are also members of the "PKK" (Empowerment and Family Welfare) of STM Hilir District with 150 members including staff of Integrated Health Post ("Posyandu"). The objectives of this community service were to teach about stunting so that mothers know how to avoid stunting and to teach how to make dadih enriched with various original flavours such as red guava, durian and banana. Participatory training and community empowerment were used as the methods in this community service activity. A comprehensive discussion occurred where mothers not only inquired about stunting but also delved into various topics. The results of this community service activity indicate an improvement in the community's knowledge about the production and benefits of dadih as a probiotic. The community also expresses a liking for the dadih products. Based on these findings, it is expected that the producing of dadih by the community can address issues related to stunting.

Keyword: Dairy product, Growth failure, Milk, Nutritional problem, Toddler.

ABSTRAK

Berdasarkan Survei Status Gizi Balita Indonesia Tahun 2021, Provinsi Sumatera Utara memiliki jumlah anak stunting tertinggi kelima di Indonesia, yaitu sebanyak 383.403 balita stunting. Stunting juga banyak terjadi di Kabupaten Deli Serdang. Masalah stunting merupakan masalah gizi yang fenomenanya tersebar di semua tingkatan. Stunting atau kondisi kegagalan pertumbuhan pada anak balita akibat kekurangan gizi kronis, terutama pada 1000 hari pertama kelahiran. Kegiatan pengabdian pada masyarakat telah dilaksanakan di Kecamatan STM Hilir, Kabupaten Deli Serdang dengan sasaran komunitas ibu-ibu yang tergabung dalam PKK (Pemberdayaan dan Kesejahteraan Keluarga) yang beranggotakan 150 orang termasuk staf Pos Kesehatan Terpadu ("Posyandu"). Tujuan dari pengabdian masyarakat ini adalah untuk memberikan edukasi tentang stunting agar ibu-ibu mengetahui cara menghindari stunting dan mengajarkan cara membuat dadih yang diperkaya dengan berbagai rasa original seperti jambu merah, durian dan pisang. Pelatihan partisipatif dan pemberdayaan masyarakat digunakan sebagai metode dalam kegiatan pengabdian masyarakat ini. Diskusi komprehensif terjadi karena para ibu tidak hanya menanyakan tentang stunting tetapi juga berbagai topik lainnya. Hasil dari kegiatan pengabdian masyarakat ini menunjukkan adanya peningkatan pengetahuan masyarakat tentang cara memproduksi dadih dan



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manfaat dadih sebagai probiotik. Masyarakat pun menyatakan menyukai produk dadih yang dihasilkan. Berdasarkan temuan tersebut, diharapkan pengolahan dadih yang dilakukan masyarakat dapat mengatasi permasalahan terkait stunting.

Keyword: Produk hasil ternak, Gagal Tumbuh, Susu, Masalah Gizi, Balita.

1. Introduction

Deli Serdang Regency is located between 2 ° 57 North Latitude and 3 ° 16 South Latitude and 98 ° 33 - 99 ° 27 East Longitude with an area of 2,497.72 km². The region of Deli Serdang Regency is bordered to the north with Langkat Regency and the Malacca Strait, to the south with Karo Regency and Simalungun Regency, to the east with Serdang Bedagai Regency and to the west bordering Karo Regency and Langkat Regency [1]. Because the people of Deli Serdang have a strong openness to knowledge, every year a community service is held in the Deli Serdang Regency.

This community service was focused on Tadukan Raga Village, STM Hilir subdistrict, Deli Serdang Regency. In this communities there are many dairy goat breeders who produce milk. Product innovation from goat's milk for example becomes dadih. Dadih is one of endogenous food which original comes from Sumatra Barat [2]. Processing milk become dadih is urgently to be done, because if only rely on the basic product, namely milk, then there are limitations to consumers who buy it. In addition, the innovation of processing milk into dadih will expand the marketing reach and increase the shelf life of milk.

The problem currently faced by the community in Deli Serdang Regency is stunting [3; 4]. Stunting is a linear growth disorder caused by chronic malnutrition and/or chronic or recurrent infectious diseases [5]. The 2017 Nutritional Status Monitoring (PSG) shows that the prevalence of stunting under five in Indonesia is still high, namely 29.6% above the limit set by WHO, which is 20% [6]. Risk factors that influence the occurrence of stunting include issues of education and services for mothers, problems of household access and socioeconomic level, and the condition of the mother [7, 8, 9].

History of toddler illness can affect the growth and development of children. The energy needs of children that should be used to meet the needs while growing are actually used for recovery of the body affected by the disease. Disturbances in nutritional intake during pregnancy can affect the baby's birth weight so that the baby's weight is less than 2500 grams or low birth weight [10].

One way to overcome stunting is thorough consume good nutrition such as milk [11, 12, 13]. In this case the ingredients are just plain milk, but milk that is processed into products such as curd [14]. Dadih is a fermented milk product, which consist of curd and whey. The curd could be coming from buffalo milk which is put into a bamboo tube and covered with a banana leaf. Then leave it for two days at room temperature until lumps form. According to [15], clumping that occurs is caused by microbes originating from bamboo and banana leaves so that it will produce a lumpy shape and yellowish-white color and has a distinctive aroma.

Related to the health benefits of curd, this extension activity aims to teach about stunting so that mothers know how to avoid stunting and teach how to make curd so that their interest in making curd will be followed by consuming curd both for children and for themselves.

2. Methods

In this community service, the target characteristics are mothers who are members of the PKK (Empowerment and Family Welfare) of STM Hilir District with 150 members.

Community service methods include:

- a. Participatory training and community empowerment which was conducted on Tadukan Raga dairy goat breeders
- b. Participatory Rural Appreciation; all dairy goat breeders are actively involved while community service team from Universitas Sumatera Utara as facilitators.
- c. Comprehensive namely community service process carried out simultaneously related to human resources, raw materials.
- d. Applying affordable technology which could be conducted by doat dairy breeders. Later on the product

of this community service i.e dadih could supporting their business.

In the training, the materials provided included material on the importance of preventing stunting, material on milk and curd, material on making curd and material on the variety of curd flavours. The community service method is implemented in 5 (five) stages, namely:

- a. Conducting surveys to determine the conditions or the problems faced by dairy goat breeders and other communities of Tadukan Raga village.
- b. Interviews were conducted with dairy goat breeders and other communities in other to get potential and enthusiasm in the community service.
- c. Introducing a community service program include the time and schedule, material, training/ demonstrations, counseling assistance.
- d. Program implementation
- e. Program monitoring.



Figure 1. Activities carried out with PKK mothers, Posyand staff and STM Hilir sub-district employees.

3. Results and Discussion

In accordance with the problems of goat dairy breeders and other communities, a series of activities have been held in Tadukan Raga village. The activity was carried out in March until May 2023. The activity was also assisted by students. The activities are as follows:

3.1. Provide lessons on the problem of stunting

Most participants did not understand stunting. That stunting must be anticipated, especially for teenage girls so that their bodies are prepared to become healthy expectant mothers. Actually, unpreparedness of the mother's body causes stunting i.e. developmental disorder experienced by children. Stunting also could be caused by and infection repetitive, and inadequate psychosocial stimulation.

Factor causes of stunting can be grouped into direct and indirect causes. Practice giving colostrum and exclusive breastfeeding, consumption patterns of children, and infectious diseases suffered by children be a direct causal factor that affects the nutritional status of children and can have an impact on stunting. While the indirect causes are access and availability of food ingredients as well sanitation and environmental health.

Stunting is still considered to be serious problem in Indonesia because the prevalence rate is still above 20%. Therefore, stunting is still a serious problem and must be addressed immediately so that the stunting rate could decrease. Stunting causes an impact on children's cognitive, motoric, and verbal development to be not optimal. In the future, stunted children have a higher risk of obesity and disease problem. In addition, children's learning capacity and performance as well as productivity and work capacity to be suboptimal. The bad impact of stunting also has an impact on reproductive health.

3.2. Provide lessons on nutrition to overcome stunting

In conveying efforts to prevent stunting, the information conveyed is as follows:

- a. Fulfilling nutritional needs since pregnancy A relatively effective way to prevent stunting is to meet maternal and child nutrition since pregnancy. Women who are pregnant always consume healthy food or supplements.
- b. Babies get exclusive breastfeeding for 6 months. Breastfeeding has the potential to prevent stunting in children. Therefore, mothers are advised to exclusively breastfeed their children for six months.
- c. Healthy solids to accompany breastfeeding When a baby is over six months old, mothers are advised to start giving complementary foods for ASI (MPASI). Ensure that the foods provided are able to meet micro and macro nutritional needs to prevent stunting.
- d. When the baby can eat porridge, it is very good to add processed milk such as dadih curd from milk added to the porridge. Thus, toddlers get probiotics that will strengthen their immune system.
- e. Consistent monitoring of children's growth. Parents should continue to monitor the growth of their children, especially the child's weight and height. Take the child to the Posyandu or the children's clinic regularly so that steps can be taken immediately if there is a health problem.
- f. Keeping the environment clean Children are very susceptible to disease, especially if the environment around them is dirty. This factor can also increase the risk of stunting. Therefore, parents must ensure that the home environment is always clean and safe so that children can continue to grow healthy.

3.3. Provide lessons on how to make dadih

Dadih is the result of fermentation of milk in bamboo tube. Dadih is has soft textured, white color and in Sumatra dadih consume with rice. Dadih is incredibly good for health, contains microbials, especially lactic acid bacteria such as lactobacillus plantarum and enzymes. Therefore, consuming curds will increase the body's immunity.



Figure 2. Scheme how to make dadih.

The stages of community service learning have been going well. The participants listened solemnly and enthusiastically. This is because they have witnessed cases of stunting in their community. Seriousness arises to overcome stunting.

At the training stage in making curd, the breeders swiftly cut the bamboo. Bamboo that grows a lot in community settlements is Ampel and Gombong bamboo. Fermentation was carried out for 2 days according to Ginting's research (2018). Fermentation up to 3 days is not preferred because the curd tastes sourer.

After 2 days of fermentation, the participants separated the curd from the whey. Curd is eaten with rice after being mixed with sliced shallots and cucumber. There was also innovation on mixing curd with fresh durian, guava, and banana. Meanwhile whey is mixed with syrup and ice cubes. All participants were happy with this product. The children who were brought during the training really enjoyed drinking the fresh, sweet and sour whey. All of these foods contain excellent nutrition. Moreover, this food is because it contains good microbes, it will increase the body's immunity against disease.

Dairy goat breeders are eager to make diversification of curd that is fun for children such as curd candy, curd ice cream, curd crackers. Everything to bring health and strength to the body of children and adults.

A discussion held shortly after the training resulted in a desire from a mother who raises dairy goats to process curd focusly into curd ice cream. Thus, many children will consume curd and the spread of curd in the form of ice cream will be even wider.

4. Conclusions

At the end of the training, the women tasted the curd they made. They were happy with the taste of the curd, especially the durian-flavoured curd. Mothers who brought their children to the training also gave the curd to their children, and the children liked the curd.

This communication service will be useful for overcoming the problem of stunting. Dadih is a clever way of processing milk that has been practiced by the ancestors of the Indonesian people for hundreds of years. Dadih contains good nutrition besides containing probiotics which boost the body's immunity. The community is enthusiastic about dadih for helping the body's health and eager to apply it in activities as breeders. In an effort to disseminate curd with a higher level of favourability, it is recommended that curd should also be processed into ice cream. Ice cream is more favourable and has a wider distribution range.

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