

COMMUNITY EMPOWERMENT THROUGH TRAINING AND ASSISTANCE OF USE OF MILK KEFIR TO PREVENT STUNTING

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Abstract

Community service aims to train, introduce and utilize kefir milk to prevent stunting in toddlers. Community service was carried out using a participatory approach with steps to discuss the initial planning, implementation of training, online and offline mentoring, and evaluation. The results of the training and mentoring showed 100% of participants didn't know kefir milk, 93% of participants succeeded in making milk kefir in the first batch, and 83% made use of the results. In the second batch, only 53% of participants continued to create and utilize kefir milk. Training participants have succeeded in producing milk kefir and its derivative products in the form of drinks and food which are used for daily nutrition to prevent stunting and cosmetic purpose.

Keywords: *training, participatory approach, milk kefir, stunting*

Introduction

The issue of Stunting (short stature) is one of the concerns of the global community. The World Health Organization (WHO) reports globally that 22.9% of children are stunted (Unicef, WHO, & World Bank Group, 2017). Therefore, WHO has set a tolerance limit for stunting (short stature) to a maximum of 20% or one-fifth of the total number of children under five. Meanwhile, in Indonesia in 2013 there were 7.8 million of the 23 million children under five who were stunting sufferers or around 35.6%. As many as 18.5% are very short categories, and 17.1% are short categories (Ministry of Health, Republic of Indonesia, 2016). This also resulted in WHO establishing Indonesia as a country with poor nutritional status. The 2014 data shows that the prevalence of stunting in Indonesia is higher than in other countries in Southeast Asia, such as Myanmar (35%), Vietnam (23%), and Thailand (16%). Therefore, in the National Medium-Term Development Plan (RPJMN), the government is targeting a decrease in stunting prevalence down to 28% in 2019 (Poverty, 2017). West Java Province itself includes areas with moderate prevalence of stunting (Nadiyah, Briawan, & Martianto, 2014). However, for Sumedang regency it turned out to have a prevalence rate higher than the national average, which was 41.09% where 37,970 children under five suffered stunting in 2013 (Kemiskinan, 2017). This is quite worrying and requires intensive countermeasures from all stakeholders.

The high prevalence of stunting in children aged 0-23 months in Indonesia today can reduce the quality of Indonesian Human Resources (HR). Though as Muslims, it is recommended to give birth to a better future generation. Several factors causing stunting

were noted, among others, nutritional deficiencies, maternal knowledge, parenting, access to health, water and sanitation services (Nadiyah et al., 2014);(Stewart CP, Iannotti L, Dewey KG, 2013). Efforts to reduce stunting rates in Southeast Asia have been accelerated through collaboration between the government and the private sector in the provision of nutritious food (Bloem et al., 2013). While the Indonesian government has also set 100 priority districts that will be handled at an early stage, then continued with 200 other regions. These efforts are in the form of a stunting intervention framework, namely specific nutrition interventions and sensitive nutrition interventions (Kemiskinan, 2017). Specific nutritional intervention frameworks are interventions aimed at children in the first 1,000 days of life (HPK) and contribute to a 30% reduction in stunting. The frame of specific nutritional intervention activities is generally carried out in the health sector. This intervention is also short-term in nature where the results can be recorded in a relatively short time (Kemiskinan, 2017).

The activities that are ideally carried out to carry out Specific Nutrition Interventions can be divided into several central interventions starting from the pregnancy period of mothers to childbirth and children under five: 1) Specific Nutrition Interventions targeted at Pregnant Women. This intervention includes providing supplementary food (PMT) to pregnant women to overcome sustained energy and protein deficiencies, overcoming iron and folic acid deficiencies, overcoming iodine deficiency, overcoming worms in pregnant women and protecting pregnant women from malaria. 2) Specific nutritional interventions are targeting breastfeeding mothers and children aged 0-6 months. This intervention was carried out through several activities that encouraged the initiation of early breastfeeding / IMD, primarily through the provision of first breast milk jolong / colostrum and support exclusive breastfeeding. 3) Specific nutrition interventions are targeting breastfeeding mothers and children aged 7-24 months. This intervention includes activities to encourage the continuation of breastfeeding to children/infants aged 24 months. Then, after the baby is over six months old accompanied by the provision of MP-ASI(Kemiskinan, 2017). Therefore, in this PkM, specific nutrition intervention efforts were carried out targeting pregnant women, nursing mothers, and toddlers aged 7-24 months through the use of milk kefir as the daily nutrition of the three target groups.

Method

The use of kefir milk as a nutrient to prevent stunting in infants is carried out using a participatory approach with the following steps:1) Discussion with partners about the condition of children under five, both in number, nutritional status and health. This PKM activity partner includes the Village Head, Chairperson of the PKK Driving Team and Yandu Post Cadre, PKH Ministry of Social Affairs PKH Assistant, and the KPM Chair was introduced to milk kefir, the solution offered and the application of simple technology in the manufacture of household-scale milk kefir.2) Training on the introduction and production of household scale milk kefir was done through lectures, demonstrations, and the practice of making kefir with essential ingredients of pure milk and kefir grain as a starter. Completed the training activities followed by mentoring through online social media facilities.3) Assistance for the use of milk kefir as a daily nutrient for pregnant women, nursing mothers and toddlers is done online and offline. Online mentoring was conducted to the heads of KPM groups and Yandu post cadres, while offline mentoring was carried out through visits to each KPM group together with FDS (Family Development Session) activities.4)

Assistance on the use of kefir milk for health and beauty purposes is carried out online, and offline after participants have obtained fermentation products from the previous stages.5) Evaluation of the implementation of training and mentoring activities and follow-up planning of events in the next period. This activity was carried out with stakeholders, namely the Village Head / Village Assistant, Chairperson of the Posyandu Cadre, and PKH Assistants. The overall training and mentoring activities were carried out for one month, from July to August 2018 in Pasirbiru Village, Rancakalong District, Sumedang District, in collaboration with the local PKH KPM and PPKH. This activity was also supported by several parties including the West Java Regional Organization ICMI, the Indonesian Kefir Community, the Dapur Kefir Bandung, and the Natura Kefir.

Results and Discussion

Partners PKM activity includes the village chief, the Chairman of the PKK and Kader Post Yandu, Companion PKH Kemensos, village midwives, and Chairman of the KPM introduced to kefir milk, the solutions offered and the application of simple technologies in the manufacturing of household scale milk kefir. In this activity, brainstorming was held about the real conditions of the prospective beneficiary community, participants' needs, place, availability of suggestions and possible sustainability of the program after the PKM activities. On this occasion, the servants conveyed the intent and purpose, goals and components of the Pasirbiru Village community involved.

The Village Head welcomed enthusiastically as he hoped that this activity had a positive impact on the health, social and economic conditions of the population, especially the families of beneficiaries of the Ministry of Social Affairs' Family Hope Program who had received assistance and assistance. On the same occasion, the Chairman of the PKK was delivered condition of the real number of Pos Yandu and activities that serve health checks carried out in people, including pregnant women, nursing mothers, and young children who are in the region of the village of Pasirbiru. Also added by the PKH Village Assistance Officer Pasirbiru the number and location of the target groups that have been prepared. Even the group leaders were ready to facilitate the activity. At the end of the meeting, it was agreed that the events would be held on July 16-17 2018 to coincide with Monday and Tuesday. The meeting ended with a review of facilities and facilities to be used in training activities. In addition to meeting with the Village Chief, on separate occasions, the servant also had discussions and submitted a request for permission to carry out activities to the Head of the Rancakalong Health Center UPT.

Training on the introduction and manufacture of household scale milk kefir.

This activity was held on July 17, 2018, from 9.30 to 15.00, at the village hall of Pasirbiru Rancakalong. The event began with preparations on July 16, 2018, covering a variety of needs such as preparing village hall space, venue setting, checking sound system equipment, LCD projectors, banners, show attendees and examples of kefir milk fermentation products and processes. Precisely at 8:30 a.m., the Mitra Mitra Village PkM implementation team arrived at the location of the activity after traveling for 1.5 hours using the operational vehicle of the Faculty of Tarbiyah and Teaching. The PKM

Implementation Team consists of seven lecturers, eight students of the Chemistry and Biology Education Study Program and one driver.

Mr. Ajang Winarya opened the introduction of kefir milk production and training activities to prevent stunting as Secretary of Pasirbiru Village representing the Village Head who was carrying out external services. Previously, Head of the Chemical Education Study Program, FTK UIN Sunan Gunung Djati Bandung, in his speech conveyed the purpose of the PKM implementation as well as a general description of activities. Furthermore, the main program was in the form of introductory material about stunting and some prevention efforts. The main training activities were carried out with an explanation of kefir's introduction from the aspects of understanding, history, benefits, and how to make it, followed by the practice of making milk kefir and questions and answers about kefir. The complete material is available in the attachment section. This activity attended by 60 participants including 47 Family Hope Program Beneficiary Groups, two village midwives, six posyandu cadres, the leader of the PKK Village Pasirbiru driving team, and four PKH facilitators who served in the Rancakalong District.

After completing the practice of making milk kefir using the mini fermentor kit provided, the participants were asked to fill out the questionnaire after the training. The questions in the poll are about the knowledge of milk kefir, the success of making milk kefir batches 1 and 2, using kefir milk from batch 1 and 2, introducing milk kefir to others and inviting others to use milk kefir after training.

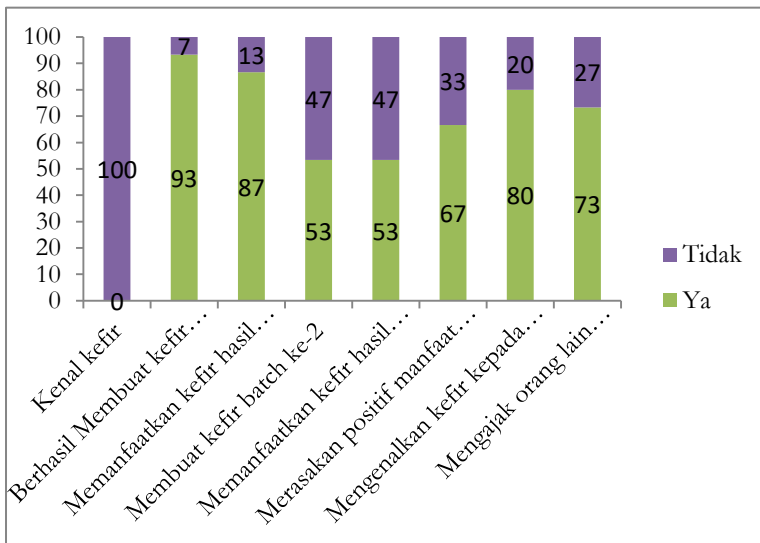


Figure 1. Results of participants' questionnaires after training and mentoring the use of kefir milk

As seen in Figure 1, all trainees did not know milk kefir. After this training, 93% of the participants succeeded in making milk kefir in the first batch, and 83% used the results. However, the success in the first batch was not in line with the second batch, where only 53% of participants continued making and utilizing milk kefir in the second batch. Figure 1 also shows 80% of participants felt positive benefits of consuming kefir milk, including constipation to be smooth, comfortable stomach, without daytime drowsiness, while nighttime sleep was slower. Some participants also felt a more comfortable stomach condition. The things that interfere when consuming milk kefir include nausea, pain, bloating, flatus frequency and urinating more often, and more burping. Nausea experienced by pregnant women is reduced after drinking kefir milk, especially from kefir prima types, increase the quantity and quality of breast milk produced. However, so far only four toddlers who want to drink milk kefir, most toddlers are reluctant to drink it because it tastes sour.

Mentoring the use of milk kefir as a daily nutrient for pregnant women, nursing mothers, and toddlers.

This stage is a follow-up to the introduction and preparation of milk kefir training to prevent stunting in toddlers. The follow-up stage is done in two ways, namely using social media and face to face directly. On mentoring using social media, it was carried out online through WhatsApp group consisting of PKK and Pos Yandu cadres, Chairmen of PKH Groups and Assistants. Mentoring activities take place at any time with the topic of discussion about tips and tricks in the treatment of kefir grain, stage one fermentation, taking kefir grain from fermentation culture, second stage fermentation, determination of harvest period, separation techniques and postharvest kefir milk handling.

The discussion took place interactively and warmly, interspersed with sharing pictures of the results of practical activities. Besides that, offline assistance also took place in three places according to each group. At this stage also carried out data collection on the number of pregnant women, nursing mothers, and toddlers who have used kefir milk as daily nutrition. Most of the participants felt a positive impact after taking milk kefir, including sleeping to be slumbering, stomach pain subsided, and abundant breast milk. However, some participants also experienced the opposite condition at the beginning of use, and some even thought that milk kefir did not match the state of his body. The next step was after the participants had the result of kefir prima fermentation and kefir whey. The use of kefir milk for health purposes is guided by the rules of use or dosage issued by KKI (Indonesian Kefir Community).

Evaluation of the implementation of training and mentoring activities and follow-up planning of activities

Evaluation activities on the implementation of training and assistance in the manufacture of milk kefir and its use as a daily nutrient for pregnant women, nursing mothers, and toddlers were carried out together with Village Activities representatives representing Pasirbiru Village Heads, Chairmen of Posyandu and PKH Facilitators.

In this evaluation activity, several important matters were discussed regarding the implementation of training activities. The notes in this activity include:

- a. The effectiveness of training shows a very high percentage in the manufacture of the first batch of milk kefir, but the utilization of the results is slightly lower. The weaknesses recorded at this stage are partly because not all participants understand well how to make, harvest and use them. Likewise in the second batch, it turned out to be drastically reduced, where only half of the participants practiced making kefir in the second batch.
- b. Educational activities at the mentoring stage carried out through social media online just reached 20% of the total participants, so the results obtained were less effective.
- c. The lack of raw materials turned out to be one of the causes of the low sustainability of the manufacture of milk kefir in the second batch. This happened because the participants had difficulty obtaining fresh milk to be fermented, besides the price was higher and the availability was infrequent so that in the second batch only half of the participants did the fermentation. Besides, the condition of economic limitations is also another obstacle to the supply of raw materials and the sustainability of the process of making milk kefir. Therefore, an alternative solution is needed to provide raw materials.
- d. The follow-up plan for activities includes the opportunity for the use of milk kefir for the community and different ages from this activity as well as the sufferers of chronic/acute diseases who need assistance, especially the patients of Pasirbiru poskesdes in Rancakalong District.
- e. Information dissemination efforts, the manufacture and use of milk kefir both for the prevention of stunting and other health problems are planned to involve KPM PKH from the neighboring village in the Rancakalong District.

Training on the introduction, manufacture, and utilization of kefir has been successfully carried out. The kefir milk obtained is used as a daily nutrient for milk for pregnant women, nursing mothers and toddlers of the Family of Beneficiaries of the Family Hope Program in Pasirbiru Village, Rancakalong District, Sumedang District. One measure of the success of this activity is the number of participants reaching 60 people, according to the previous target. However, this amount is not entirely from PKH KPM but involves the PKK Driving Team, Posyandu Cadre, midwives, and PKH sub-district facilitators in Rancakalong. Considering the total number of KPM in Pasirbiru Village is 146 households, further efforts are needed for example by making the participants present as peer tutors for other KPM members. Previous reports indicate that peer tutor models are useful in learning for adults (Woodward et al., 2013). In this case, the peer tutors that can be selected include pos yandu cadres and PKK members in the respective RT / RW areas in Pasir Biru Village. Besides, training of trainers (ToT) is also needed for tutors who will be involved following the guidelines (Health International, n.d.). The things that need to be mastered by peer tutors, especially at the stage of implementing, monitoring, and evaluating the manufacture and utilization of milk kefir.

The implementation phase in PkM is an important step that needs to be accompanied consistently so that the continuity of the activity of making and utilizing milk kefir is still carried out, considering a user can feel the functional benefits of kefir after regularly using milk kefir in at least one month (John & Deeseenthum, 2015). Therefore, continuous and

continuous education is needed. Also, at the initial stage of the use of milk kefir, the Herx reaction usually occurs which allows the occurrence of adverse reactions such as itching, rash, nausea, bloating and other symptoms (Adams, 2011). This allows for the assumption that the illness is getting worse, so novice users kefir tend to stop using it.

The sustainability of the manufacture of milk kefir in participants in Pasirbiru Village is mostly determined by the availability of raw materials in the form of fresh milk. However, at this time there is a scarcity and an increase in the price of fresh milk. This is because some dairy-producing cattle farms in the Pasirbiru and surrounding areas have switched functions. The results of the discussion and evaluation with the head and companion of Pasirbiru village concluded that the conversion plan from cattle farms to Etawa goat farms. This effort is made considering the possibility of getting goat feed is more comfortable than getting dairy cattle feed. Other causes hampered the manufacture of milk kefir, among others, because the price of fresh milk was considered expensive by participants. This is the material for evaluating the village head and accompanying officers to get a solution. One effort that can be chosen is by optimizing the role and function of BUMDES (Village Owned Enterprises). Where, in the near future Pasirbiru Village will establish BUMDES as a form of implementation of village authority as stated in the Village Law No. 6 of 2014 concerning Villages, Government Regulation No. 43 of 2014 concerning Implementation Regulation of Law Number 6 of 2014 regarding Villages, Village Minister Regulation, Development of Disadvantaged Regions and Transmigration No. 4 of 2015 concerning the Establishment, Management and Management, and Dissolution of Village-Owned Enterprises and the Minister of Home Affairs Regulation number 44 of 2016 concerning Village Authority.

Technically, BUMDES provides raw materials for fresh milk needed by the community, then accommodates the products of the community's processed milk kefir to be distributed or resold. With this concept expected, PKH beneficiary groups in particular and the people of Pasirbiru Village, in general, can obtain additional income to improve the economy of the PKH KPM group members. Stunting prevention efforts through specific nutritional interventions for pregnant women, breastfeeding mothers and toddlers 7-24 months until now the success rate cannot be measured, considering the implementation of the use of kefir milk lasted only one month. However, the findings towards positive results have begun to appear, including several participants who have experienced health improvements in several parameters. The reluctance of toddlers to consume milk kefir needs to be overcome, for example by introducing it early and making a variety of processed drinks/foods made from milk kefir which children like such as fruit juice, pastries, ice cream, ice cream or by adding it to formula milk. Presented (Branca & Rossi, 2002).

Besides, there were also participants who were accompanied but not from the previous target group. The participants suffered from post-irradiation lymph node cancer and chemotherapy. The results are quite encouraging where injuries due to radiation exposure are treated using kefir milk, whether taken or applied, has shown improvement, the wound has narrowed, and the condition has stabilized. This condition is in line with the results of research that has been reported, where kefir milk is active as an anticancer in several different cancer cells such as colorectal cancer, malignant T lymphocytes, breast, and lung carcinoma (Sharifi et al., 2017). In addition, kefir is also able to accelerate wound healing (Huseini, Rahimzadeh, Fazeli, Mehrazma, & Salehi, 2012). Based on this fact, assistance activities for this utilization need to be continued with an intensification of

recording parameters of the health conditions of pregnant women, nursing mothers and toddlers 7-24 months. The target audience for the use of milk kefir is also expanded at other age levels such as adolescents, adults of productive age, and the elderly. To facilitate measurement and recording, kefir milk utilization activities can also work with poskesdes, especially concerning handling complaints of symptoms of degenerative diseases (Windayani, Kurniati, Sukmawardani, Listiawati, & Nurhamzah, 2018). Thus Pasirbiru Village, Rancakalong Sumedang Subdistrict is expected to avoid the occurrence of stunting, the community is healthier and more productive.

Conclusion

Based on the description of the results and discussion of PKM activities, the training in making and utilizing milk kefir to prevent this stunting can be concluded that the PKM activities in utilizing milk kefir to prevent stunting have been carried out through preliminary discussions, training on the introduction and manufacture of milk kefir, assisting the use of kefir milk for health purposes and beauty, and evaluation. The results of the training and mentoring showed 100% of new participants knew kefir milk, 93% of participants succeeded in making milk kefir in the first batch and 83% made use of the results. In the second batch, only 53% of participants continued to create and utilize kefir milk. Training participants have succeeded in producing milk kefir and its derivative products in the form of drinks and food which are used for daily nutrition and pure cosmetics.

Recommendations

The recommendations that can be submitted from the results of the PKM include:

1. For facilitators, it is advisable to provide assistance and further education in the manufacture and use of milk kefir for all ages, for example through small groups.
2. For the Village Head, managers of BUMDES / KUB are advised to facilitate the supply of kefir raw material in the form of fresh milk and to accommodate the milk kefir products produced by residents.
3. For PKK / Pos cadres, yandu should use kefir milk as additional food for pregnant women, breastfeeding mothers and toddlers with variations in the preferred presentation such as smoothies, ice cream, ice lolly, pastries, or donuts.
4. For cadres and Poskesdes officers, it is advisable to provide milk kefir for patients who suffer from symptoms of degenerative diseases such as diabetes, hypercholesterolemia, uric acid and hypertension and patients suffering from other diseases.
5. For servants, it is recommended to use a participatory training model and involve peer tutors to improve the effectiveness of training in the manufacture and utilization of milk kefir.

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