

A Community Based Research: Building Healthy Living Community through Sports and Nutrition Program

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Abstract: *Purpose of this research was to analysis the effect of the community-based research program for building the healthy living community through sports and nutrition programs in Padang Pariaman regency. Targets of this program were to build a sports community and nutrition in Nagari Pauh Kamba, to synergize the role of sport community to be more aware of the importance of nutrition for the health and to encourage the community systems to strengthening the exercises and people nutrition program. Method of this research was a community-based research. It was a project carried out during the three months in building a sports community and nutrition in Rimbo Dulang-Dulang, Bayur and Pinang villages, Nagari Pauh Kamba. Results of this research reported that the program can be done well and enable to increase public awareness for the health and nutrition. The comparison of people awareness before and after doing the program revealed some positive effects on people health and nutrition*

Keywords: *Healthy Living, Community, Sports and Nutrition Program*

Introduction

Indonesian healthy program 2020 is the responsibility of government and academia to realize the people health and nutrition quickly, especially in villages that have a habit with unhealthy meal. So often many cases of the health in the villages those are knowledgeable from their meal and lower in exercises. It caused the higher of some degenerative disease in West Sumatera. Healthy Department of West Sumatra reported that the cases of hypertension and heart diseases are quite high. In 2014 recorded about 17.5 percent of hypertension cases on young adults aged 25-34 years, 28.0 percent of them was aged 35-44 years old, 39.3 percent was younger seniors 45-54 and 52.1 percent of elderly people aged 55-65 years old with the largest contribution about 31.2 percent from 31.7 percent of the national cases. Meanwhile the case of heart patients in West Sumatra was higher at 11, 3 percent compared from all national cases only 7.2 percent.¹

Marice Sihombing² revealed that positive correlation between exercises and hypertensive disease. It means that exercises can prevent and reduce the risk of hypertension. In some cases of person with high blood pressure, they need some kinds of exercises to reduce the risk of high blood pressure. a specific type of exercises can prevent and reduce the hypertension risk , one of

¹ Departement Kesehatan RI, *Statistik Kesehatan Sumatera Barat* (Jakarta, 2014).

² Marice Sihombing, *Hubungan Olah Raga Dan Penyakit Hipertensi* (Jakarta, 2014).

them were Aerobics, Yoga, Healthy Gymnastics, Respiratory Sport, weight training, physical exercise such as jogging or walking.

Riyadi Research³ and Manampiring⁴ reported another factors to preventing degenerative diseases of hypertension and heart disease is to maintain a balanced nutritional status. A poor diet communities and high-fat was caused by obesity. It also triggers the risk of hypertension, heart disease and other degenerative diseases. This study reported about 60% to 70% of hypertension cases was caused by poor diet and nutrition, especially the rural communities that have a poor meal with high-fat content such as *rendang*, cooking with high concentrated broth of coconut.

This program was designed to guide the villager of Nagari Pauh Kamba in order to be familiar with balanced nutrition and healthy sports through the community sports program and nutrition in order to provide education about the healthy meal and nutritional balance as a good consumption for the body. Some problems was faced by related villagers was lower of their awareness on the importance of exercises and nutritional balance for the body health. his program aimed to establishing the Community Sports and Nutrition. The Community Sports focused to decrease the incidence of degenerative diseases such as hypertension, heart disease, cholesterol and other in Padang Pariaman. Awareness of nutrition knowledge for the health was given to respondents in cooperation with cadres of PKK and health centers in Patronage. Educational programs were tailored with two existing community sector, namely the Sports Community and Nutrition. The formulations of the problem in these program are: 1) Building a sport community to prepare the cadre as an instructor for the healthy exercises program in Nagari Pauh Kamba of Pariaman, 2) Building a nutrition community as media for sharing about the healthy meal for villagers and instruction and 3) Increasing the people awareness about the importance of sports Community and nutrition in order to accelerate the achievement of people healthy life.

Methodology

Method of this research used a community-based research model⁵ with mixed method approach. This approach was considered appropriate due to study the problems and gain deeper meaning of the activities in the field. Dedication to the community-based research will produce descriptive data in the form of words or the views of the people and observed behaviors.

CBR's theme was "Realization of Healthy Living Community through sport and nutrition

³ Riyadi, *Aktivitas Fisik, Gizi Dan Penyakit Degeneratif* (Jakarta: Rineka Cipta, 2007).

⁴ Manampiring, "Hubungan Status Gizi Dan Tekanan Darah Pada Penduduk Usia 45 Tahun Ke Atas Di Kelurahan Pakowa Kecamatan Wanea Kota Manado" (Universitas Sam Ratulangi, 2008).

⁵ Flicker S. Travers R, "Ethical Issues in Community Based Research. In: Urban Health Community-Based Research Series Workshop" (Wellesley, MA, 2004).

program in Nagari Pauh Kamar of Padang Pariaman. This program provides guidance for sport activities and nutrition knowledge to realize the healthy living family. First-year program was doing the healthy gymnastics training to people and give the nutrition counseling. The training was held in the sports community base camp in each village, they are rimbo dulang-dulang, bayur and pinang. While the program of nutrition training and instruction was carried out in the based camp of nutrition program in each related village of Nagari Pauh Kamba of Padang Pariaman.

Targets of the community activities was to increase the health living community by the program of healthy gymnastics training and nutrition counseling in three villages of Rimbo Dulang-Dulang, Pinang and Bayur. The three villages was under the coordination of Padang Pariaman Regency, Community Health Center, and cadre of PKK from each related village as volunteers who is assigned as an instructor in the programs of sports activities and nutrition counseling to each observed villages.

According to O'Fallon et al⁶ said that in doing the community-based research program was need about four stages of activities, they were 1) Laying Foundation, it is a negotiation stages among the community leaders, custom and local and federal government of Padang Pariaman . all people involved in this program becoming a solid team to carry out the pilot project and at the same time preparing the technical implementation for sport programs activities of nutrition in order to Identify people's perspectives and formulation of the events schedule. 2) The planning stage, it is a stage of activities planning that begins by preparing some cadres to conduct an intensive training of sports community program and nutrition. 3) Collecting data of all activities program both sport program and nutrition. The collection of data includes surveys and focus group for improvements the awareness of people about the importance of exercises and balanced meal. 4) The fourth phase was to find and negotiate the people knowledge of the sport activities and nutrition and evaluate the progress by using FGD and if necessary also involved the specific next training of gymnastic or nutrition balance for body health.

Instrument of community based research were 1) the research team, 2) observation sheets, 3) interview guidelines 4) documentation and 5) court records. The technique of collecting data used questionnaires, field observations, and guidelines for assessment of the progress of people knowledge and awareness to the sports and nutrition.

The data analysis technique used is 1) statistical techniques of "*distribution frequency*" was used to analyze the initial survey results, situation analysis of people participation in the healthy

⁶ Dearly A O'Fallon LR, "Community-Based Participatory Research as a Tool To Advance Environmental Health Sciences," *Environment Health Perspect* 110 (2002): 155–159.

exercise program and nutrition in the village and the distribution frequency of participants' knowledge after following the program, 2) a qualitative analysis technique used to explain the correlation from each both healthy living community program of sports and nutrition by comparing the initial people knowledge before and after the program and study the effects of program toward people awareness on the healthy sport and nutrition, as well as comparisons between the activities that can be done (*das sein*) with the targets achieved (*das solen*).⁷ 3) A quantitative analysis technique used to determine the difference effect before and after the program by using independent t-test. The process of data analysis used inferential statistic of Independent t-test.

Results

This program was done by building the sport community and nutrition. The two community has responsibility to observe and survey the existing situation of people sport activities and nutrition awareness in Nagari Pauh Kamba, Padang Pariaman related to the national program of the healthy family in 2020 as the government program to accelerate the achievement of healthy people. For that reason in each village need a community services to reach the vision. The responsibility of community service in each village was to facilitate and assist the people knowledge and awareness for the importance of healthy sport and nutrition program for their family. In Nagari Pauh Kamba, the formation of this community services collaborate with the research team to achieve some targets as follows:

- To accelerate the realization of healthy living community through sports and nutrition program, especially in Nagari Pauh Kamba of Padang Pariaman
- To build cooperation with other communities as the realization of people awareness of the importance of sports and nutrition program.
- To Increase the people knowledge and awareness of sport and nutrition for the body health.

Sports Community Activities and Nutrition

Sport Training and Mentoring of nutrition in the community program aimed to increase people awareness of the important of healthy living style in the family. This program was done in Nagari Pauh Kamban took seven weeks. They are four weeks to sport training and three weeks to nutrition instruction started from August 28 to October 28, 2017. The event was held from 08.00 pm to 15.30 which were followed by 60 people of Nagari Pauh Kamban consisting of 20 people

⁷ Sugiyono, *Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, Dan R & D* (Bandung: Alfabeta, 2013).

from Rimbo Dulang Dulang vilalge, 20 people from Bayur village and 20 people from Pinang village. All activity was carried out at Unit Activity of PKK and Village courts in Nagari Pauh Kamar of Padang Pariaman Regency.

First week was done a mentoring activity of sport on three villages; those are Rimbo Dulang-Dulang, Bayur and Pinang in Nagari Pauh Kamar of Padang Pariaman regency. This activity was begun by presented opening from Head of Nagari Pauh Kamba involved all cadres come from three villeges as subject of the research. They were divided into two groups namely; youth sports cadres and nutrition cadres. Before the training begun, the first activity was commenced with discussions about the purpose of the program to guide and instruct the people about the importance of sport and nutrition for the health as well as to strengthening the collaboration program among villeges in Nagari Pauh Kamar in the form of sport and nutrition community activities. In discussions about counseling, determining the location of sport training was in hall of public service in each village and nutrition instruction and practice was done in the training center of PKK. The subject matters of nutrition were the importance of nutrient for the body, balanced meal, processing of a healthy meal and practice to create a creative healthy meal by using local resources. The purpose of discussion on this subject matter was to enrich and strengthen the community knowledge and awareness about the health living with exercises and its relation with the fulfillment of essential nutrients to maintain the body fit and health. This program of training and guidance was done during 4 hours and involved all participants from three villeges as research subject. All participants were given the opportunity to ask some questions about sport and nutrition theme and get direct answer from instructor.

Questions appeared from the participants was (1) whether all people can participate in the exercise without concerning people with certain disease? (2) How the healthy exercise for mothers and elderly person? (3) How to determine the balanced nutrition in preparing a good family meal? All these questions can be addressed by speakers and participants to instructor. To measure the participants' awareness to this program was measured by the comparison value of pre and post test. In the practice session of cooking, participants enjoy cooking and serving any kinds of nutrient dish and in the end of instructor program and practice, all participants took lunch together. Having finished lunch, continued with the assistance of the knowledge of Fitness and Health. These materials are begun from 13:00 pm to 15:30 pm. The strengthening of the material talking about the Health and Fitness Sports including anatomy, health sciences and any kinds of healthy exercise model to keep the body fit.

On the second week, the program was begun from 07.30 pm with discussion and face to face instruction to learn about the nutrient needs for the body health and comfortable exercise for

their body condition. Participants were given the opportunity to contribute his thoughts in order to produce the right solution that can assist all participants in searching the suitable solution. This study was begun by a case study of malnutrition and function of nutrient for the body. Discussion tool 2 hours started from 8:00 pm and then at 10.00 continue with the gymnastic material with theme of the Health Gymnastics. It was instructed by Ms Silfiani on range of motion exercises to maintain healthy body and fitness and how to make the body shape. This material ends up to 12.00 pm. After the break, at 13:t00 pm to 15:00 pm, the discussion of Gymnastics material was continued with topic of the prevention of generative diseases by doing health gymnastic regularly. This subject matter was instructed by Sifani and Syamsuar Abbas PhD. After Asr prayer, the activities were followed by correlation of health Gymnastics and food (nutrition to maintain health and fitness). This activity lasted until 18:00 pm.

On the third week, the program was begun at 08.00 pm in the form of simulations model. It discussed about the health gymnastics model and the way to practice for the health and body fit. The simulation and discussion guided by Sifiani and Syamsuar Abbas PhD. This simulation exercise activity up to 12.00 pm. The instructors also taught the way of gymnastics practice and explanation the benefit of movement for the body fit and extremities.

On the fourth weeks, the program was carried together with sport community practice and nutrient to do exercises of healthy gym in the sport center of Nagari Pauh Kamar, such as exercises of any kinds of healthy gym movement to maintain the body fit and health. This activities took 4 hours was started from 8:00am to 12.00am.

As representatives closing activity was given to all participants where they had the opportunity to convey their impression and the message of the activities that have been done. In the confirm their impression and the message, all participants expressed their impression after following the practice of healthy gym together and regularly as well as to evaluate the program for the better improvement to the next program. By this way, these activities were expected the program can be done continuously under the guidance of sports community and nutrition that has been established as a program apart of the national health to accelerate the realization of healthy living community through sports and nutrition program in the villages, one of them was Nagari Pauh Kamar of Padang Pariaman Regency.

Evaluation of the Program

1. Comparison of Community Knowledge about the benefit of Sports and Healthy Gymnastics

Based on statistical data obtained can be presented the category of participants' scores of

participant's knowledge, healthy and fitness after following the program as shown in the following table.

Table 1. Summary of Post-test Scores from of participant's knowledge The benefit of Sports and Healthy Gymnastics

No.	Category	Interval	Frequency	(%)
1	Low	<60	6	10:00
2	Good	60-79	50	83.33
3	Very Good	> 79	4	6.67
Amount			60	100

Based on the first table above, the ability of the post-test scores of participants' knowledge about the benefit of Sports and Healthy Gymnastics after following the program activities are divided into three intervals, i.e. low, good, and excellent. Participants who earn a high score was greater than 79 as many as four persons, the lowest score was 6 persons with value of 56 and as many as 50 participants have a good knowledge category about the benefit of Sports and Healthy Gymnastics for the healthy living.

Comparison of participants' knowledge about the benefit of Sports and Healthy Gymnastics between before and after following the training program of the Sports and Healthy Gymnastics benefit as follows:

Table 2 Comparison of Participants' Knowledge before and after Following the Program

No.	Statistics	Prior knowledge	After knowledge
1	N	60	60
2	Top scores	62	80
3	lowest score	50	56
4	Mean	56.93	70.80
5	Mode	58.00	76
6	Median	33.00	72.00
7	Standard Deviation	3615	6132

Based on the second table above, it can be compared between initial participants' knowledge score and post test of knowledge score after following the sport program in Nagari Pauh Kamba of Padang Pariaman regency.

At the beginning of the participant knowledge about the benefit of sports and healthy gymnastics gained the highest score was 63 and the lowest score of 50. The increase score occurred in the participants' knowledge after attending in the community assistance on the exercises activities, where the participants' knowledge score after following the program was 80 and the

lowest score was 56. These score revealed there was an increasing of participant knowledge about the benefit of Sports and Healthy Gymnastics between before and after doing the sport program in Nagari Pauh Kamar of Padang Pariaman Regency. It showed significant difference in the average value between before and after participant following the program related to their knowledge of sports benefit and healthy gymnastics for the body.

After the normality data, then conducted comparison test of participants' knowledge score between pre-test and post test. The following result of evaluation was:

Table 3 Comparison of Participants' Knowledge by using Independent t-test

Data	t-count	Sig	df	Stage
Comparison of Pre-Test and Post-Test	7,545	001	78	0.016 <0.05
		6		Significant

Based on the third table above, it can be explained the result of SPSS output where there was a significance difference between pre test and post test of participants' knowledge and awareness of the sport in the level of $0.016 < 0.05$, it means that there was differences of participants knowledge ability about participants' knowledge of sports benefit and healthy gymnastics for the body. From 60 cadres who followed the program from three villages, they were Rimbo Dulang-Dulang, Bayur and Pinang, the sport activities was done in each village under supervision of State University of Padang and Head of district of Nagari Pauh Kamar in Padang Pariaman regency. These activities were proven by increasing participants' knowledge and awareness about sports, health and fitness and their benefit.

2. Comparison of Community Knowledge about the Healthy family nutrition requirements

Based on statistical data analysis can be presented the category of participants' knowledge scores (post-test) about the Healthy family nutrition requirements can be seen in the following table.

Table 4. Summary of Post-test Scores from of participant's knowledge about the healthy family nutrition requirements

No.	Category	Interval	Frequency	(%)
1	Low	<60	0	0:00
2	Good	60-79	37	92.5
3	Very Good	> 79	3	7.5
	Amount		40	100

Based on fourth table above, the ability of the post-test scores of participants' knowledge

about the healthy family nutrition requirements after following the program activities are divided into three intervals, i.e. low, good, and excellent. Participants who earn a high score was greater than 80 as many as three persons, there was no the lowest score and the high score (good category) was 37 persons have good nutrient knowledge and awareness.

Comparison of participants' knowledge and awareness about the nutritional values for the health between before and after following the training program of the healthy family nutrition requirements counseling and practice can be seen on the fifth table below:

Table 5 Comparison of Participants' Knowledge before and after Following The Nutrient Counseling and Practice Program

No.	Statistics	Pre-test	Post-test
1	N	40	40
2	Top scores	66	84
3	lowest score	34	64
4	Mean	49.75	72.00
5	Mode	54	72.00
6	Median	51.00	71.55
7	standard Deviation	7178	5,174

From the fifth table above showed that the highest pre-test scores of 66 and lowest score of 34. The increasing score occurred in the post-test with the highest scores was 84 and lowest was 64.

The result of score analysis showed that there was achievement difference between participant before involved in the program and after. The increasing score was significant enough on participants' knowledge and awareness of Nutrition Sciences and Food Ingredients including the way of cooking in the processing of meal become healthy local Foods. It showed the realization program of healthy living community through sports and nutrition can be reached well and this program have already increased people of Pauh Kamar in Padang Pariaman Regency in understanding and implicating the nutrient to their daily meal.

After the normality data and then conducted the comparison test of participants' knowledge score between pre-test and post test showed that there are differences score between pre-test and post-test about nutrition and healthy food. The result of analysis of independent t test showed that being a difference of participants' knowledge and awareness about the healthy family nutrition requirements of local food processing become a good healthy meal and nutritious. The results of it can be shown in the table below:

Table 6 Comparison of Participants' Knowledge by using Independent t-test

Data	t-count	Sig	df	Stage
Comparison of Pre-	15 582	001	78	0.017 <0.05 Significant

Output of the results analysis of the program on the sixth table can be seen that Comparison score between Pre-Test and Post-Test have significant difference with significance value was 0.017 or more than 0 .05, it means that there were differences of Participants' Knowledge and awareness about the healthy family nutrition requirements, including the insight of nutritional sciences and Processing of richous nutriet meal as a health local food. The participants' training was 40 persons from three related villages observed. It was evident that there was positive effects of community service program toward the acceleration of achievement of Indonesian healthy program in Nagari Pauh Kamba covered Rimbo Dulang-Dulang, Bayur and Pinang. This program was done in each village under supervision of State University of Padang and Head of district of Nagari Pauh Kambar in Padang Pariaman regency. The positive effect of the program was the increasing of people knowledge and awareness in understanding and application the healthy family nutrition requirements in their daily life.

Discussion

Exercise training, nutrition counseling and develop the practice of local food to become nutritious meal for family were considered as the highly strategic in facilitating people in Pauh Kambar to improve their knowledge and awareness about the benefit of sports and healthy gymnastics and balanced nutrition for serving a healthy meal for family. The contribution of this community based program was to provide clinical research guidance in the line of culinary practices. Related to the encouragement of accelerating the achievement of national program of the health through the sport training and nutrition counseling activities for family in the village of Rimbo Dulang-Dulang, Bayur and Pinang at Nagari Pauh Kambar of Padang Pariaman Regency. The evaluation of this program was done by observing pre test score and post test score of people understanding about the benefit of sport and nutrient to the body health in establishing a healthy family. All data was analyzed by using statistical analysis to measure the acceleration progress of the healthy Indonesian program through based-community sport and nutrient program. For the first year of sport training program are given more focus to the improve people knowledge and awareness about the sport benefit and nutrient for building a healthy family in the three related villages. Data processing was analyzed by using SPSS program, given limited funding and time for expense the execution of the community based research program that have been took about four months.

In the first sport training, it can outreach local activities to involve in the sports practices program and nutrition counseling including practicing how to serve a healthy meal for fulfilling the balanced nutrient into family's meal. This communities program also taught women how to cook and serve a nutritious food, encourages people motivation to study and understanding about the nutritious food processing and care with their physical movement to follow the healthy gym activities regularly twice a week. These program improve participants' understanding of the importance of sport and nutrition community to drive the local people of Nagari Pauh Kamar to be more active study about the benefit of sports and nutrition for maintaining the family health and prevent the family from any kinds of generative disease as well as to improve local awareness to diligent taking sport and serve a nutritious meal for their family.

In this sports community program was involving 60 participants from three villages. These activities can improve local people knowledge and awareness about the science of sports, the benefit of gym for the health and how to implement healthy exercise. In addition the activity also gives some counseling about the requirement of family nutrient through study about the balance nutrition and practicing how to cook well with maintains the nutrient substances of the food. The results of this research showed that the local people knowledge of the sports benefit for the health before following the program and after following the program has significant difference, it means this program enable to give some contribution to improve the local people understanding about the importance of sports for the healthy body and balanced nutrition for maintain the family health, the obtained score of them was approximately 33.1% in the category increased up to 50%, and 14.7% was in a very good category of people understanding the benefit of nutrient for family health and use the local resources to make any kinds of delicious nutrition meal. .

Meanwhile in the program of sport training in the form of gym, the nutrition counseling also was given to local people including teaching the way of cooking and serving a healthy meal by utilize some local resources become nutritious rich food for maintaining the family health. In addition the program also study about the behavior of local meal and drive them to do the innovation of their serving a local meal become local reach-nutritious meal. This program continue to guide and train local people involved in the processing of nutritious food by practicing the best cooking to serve a healthy meal for family members in three villages of Rimbo-Dulang-Dulang, Bayur and Pinang Village. All data showed that being a rise the ability of local community in understanding about the importance of sport benefit and nutrition for people health. Comparative score between pre test and post test as much as 92.5% of participants who previously had lower score in the knowledge of nutrition. And the by this program, the understanding of local people become increased up to 90% understanding the benefit of sport and nutrition for maintain the

family health including the knowledge of food, ingredients of food and the process of food cooking category. Based on the data showed that more than 10% of participants were able to achieve the excellent of understanding the benefit of sports and nutrition for maintaining the healthy family. This finding showed none of the participants who had not yet mastered in the nutrition insight and balanced nutrition for healthy family program. After participating in community program, this result founded that the sports community program and nutrition counseling score obtained more than half of them getting improve of their knowledge and awareness them for the benefit of sport and nutrition in establishing a healthy family. It means that sports training and nutrition program can accelerate the local people health awareness in the village of Rimbo Dulang-Dulang, Bayur and Pinang under controlling by State University of Padang through community service program and collaboration with the healthy Academics, sport and nutrition community and the health practitioners.

The result of this research gives positive contribution for increasing of local people knowledge and awareness about the benefit of sports and nutrition for the body health. It is an evident local people drive to change their bad habit of unnutrient meal to consume and serve rich nutritious meal for their family; in Addition the local people also drive to enthusiast joint the gym group do involved in the sport activities regular in the village. By this way, local people become more aware with healthy sport and their family nutrient requirement as the signal of the acceleration of healthy Indonesian program in Padang Pariaman Regency through sports community and nutrition community programs. This result also gives positive contribution for improving the quality of academic research in the line of public service.

After the acceleration of the achievement of healthy Indonesia program through sport community and nutrition community service, participants showed the increase of their insight and be more aware to fulfill their rich nutritious food for their family members in order to maintain their healthy family. It was caused by the participants were very enthusiastic and earnest following the sport training activities of gym, in addition, they also equipped by a simple module that has been prepared to facilitate them to learn easily and independently about the way of healthy gym movement and the way of how to serve a rich healthy food by cooking any kind of local food substances resources. In the additional enhancement of simulation, it also encourages all participants to understand deeply the centrality of exercise and family nutrition requirement to maintain their balanced nutrition for their family health. It is indeed some advantages of community program that are designed by the sport community and nutrition for the local people of Nagari Pauh Kamar in Padang Pariaman Regency.

Conclusion

Based on explanation above can be concluded that this research showed there was significant different of community in Nagari Pauh Kamba, Padang Pariaman Regency on their knowledge and awareness about the benefit of sports and healthy gymnastics and the healthy family nutrition requirements where the comparison of people awareness before and after doing the program revealed some positive effects on people health and nutrition. The implications of this research are this program can be done in other village in order to accelerate the program of Indonesian healthy 2020. By this program, a community service group in each village can increase people understanding about the importance of nutrient meal and gymnastics can maintain the body health.

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