

### 3.4 Development of IEC modules for the promotion of three local pearl millet preparations to improve the knowledge w.r.t. Pearl Millet consumption among the rural population of Nagaur district of Rajasthan

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**Collaboration:** *Deputy Director, ICDS Department, Nagaur District, Rajasthan*

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#### OBJECTIVES

##### Primary Objective:

1. Development of IEC modules for promotion of three local pearl millet preparations viz. Rabl (Pearl millet Grains), Kadhi and Sogra to improve the knowledge of the rural population w.r.t. to pearl millet consumption
2. Development of a range of educational materials highlighting health, nutrition & therapeutic values of different pearl millet preparation for improvement of dietary intake of Iron of the rural population
3. Improvement in the food practices of the rural population w.r.t. to local pearl millet preparations and to study the barriers, if any, related to it.
4. Assessment of IEC module developed for the promotion of three local pearl millet preparations with increase in their consumption pattern in their diet, as an outcome indicator.

##### Secondary Objective:

1. Estimation of Hb% before and after the intervention in both study and control groups so as to observe the improvement in anemia in women in the study group.

#### PROGRESS

This project has been initiated and sampling has been done. Recommendation of Ethics Committee by DMRC has been taken. Meetings have been conducted with Deputy Director, ICDS, Nagaur district along with CDPO of Merta, Mundwa and Nagaur Tehsil telling them about the objectives of the project, nutrition intervention regarding the promotion of three local pearl millet preparations and the importance of the study and got their permission letters for Lady supervisors and Anganwadi workers to seek their cooperation during this study. Meetings were conducted with all the Lady Supervisors of Merta Tehsil and briefed about the objectives of the project, nutrition intervention and importance of the study.

**First training / Meeting** was conducted at Mundwa tehsil where all the Lady supervisors, ASHA/AWS/ Sahyogini workers of Mundwa tehsil along with CDPO of Khinvsar and Mundwa Panchayat samiti were present. Another training was conducted at Khinvsar block center where Lady supervisor of Khinvsar and all the ASHA/AW workers of Khinvsar tehsil were present. In these trainings, knowledge was imparted regarding the objectives and importance of the study stressing following aspects:-

Therapeutic values of different pearl millet preparations for promotion of three local pearl millet preparations viz. Rab1 (Pearl millet Grains), Kadhi and Sogra to improve the knowledge of the rural population w.r.t. to pearl millet consumption which in turn will help in reduction of anemia.

Knowledge regarding the preparations of different type of preparations / recipes from pearl millet viz. Rab1 (Pearl millet Grains), Kadhi and Sogra which have more retention of iron and zinc after cooking.

Promotion of consumption of those preparations of pearl millet which have more retention of iron and zinc after cooking.

In addition to the above knowledge regarding pearl millet, knowledge regarding the dietary modification were also stressed.

These trainings were conducted first in the beginning of the study. Besides these trainings, schedules were prepared, pretested in 40 household in three villages viz. Gudiya, Satlawas and Bhakrod of Khinsar and Merta tehsil and finalized the schedules.

This is a Intervention study which has been initiated in Nagaur, a desert district of Rajasthan. Cluster Randomized trial has been adopted for this study. Two clusters i.e. two tehsils of Nagaur district have been selected randomly i.e. Merta and Khinvsar tehsil out of 10 tehsils of Nagaur district. One cluster, Khinvsar tehsil, is intervention group and 2<sup>nd</sup> cluster, Merta tehsil, selected for control group. Sample size was calculated on the basis of consumption pattern of Rab1 (Pearl millet Grains), among women of desert area as reported in literature (Pearl millet Project Report by Singh et al 2011-12) as 15% rounded off to 20 percent (P1) and assuming to increase the percentage of consumption pattern of Rab1 (Pearl millet Grains), among women to be 30 percent (P2) in the group which will receive intervention for one year, with confidence interval as 95% (as  $\alpha$  is 0.5) and Power is 80 percent (1- $\beta$  as 0.8) using following formula:

$$N (\text{per group}) = 8 \times \frac{(p1 \ q1 + p2 \ q2)}{(p1 - p2)^2}$$

Sample size worked out to be 360 per group, adjusted for 20 percent non response. So total sample size will be 720, rounded of to 800 from Nagaur district of Rajasthan i.e. 400 in control group and 400 in intervention group.

**Study subjects:** Respondent are women who are cooking food i.e. 15 years and above in Nagaur district of Rajasthan.

**Inclusion criteria:** A household has been selected only if eligible women of child bearing age (15-45 years) are a member of the family.

**Exclusion criteria:** If a household has two eligible women of child bearing age (15-45 years) as a member of the family, then only one eligible woman who is present at the time of survey has been selected. Eligible women who is suffering from any chronic disease and pregnant women has not been included in the study.

From the selected two tehsils i.e. Merta and Khinvsar tehsil. six villages have been selected i.e. three villages in each tehsil on the basis of simple random sampling technique for effective intervention. Three villages in Merta tehsil selected for control group to whom general advice will be given at the time of survey. Three villages in Khinvsar tehsil will be taken as intervention group to whom intensive intervention will be given for one year. From each village, all the households, which have women in the child bearing (15-45 years) age, have been selected using a complete list of all households in each

village. Adjacent village will taken if required sample size is not covered in the selected village i.e. 135 women in each village.

Baseline survey has been started and till now a total of 176 households were covered in which 58 households from Sodas, 48 from Basni Siyacharnan and 70 households from Dhadhasani of Metrta tehsil were registered for the study. All the subjects were interviewed for collection of following information:

1. Socio-Demographic profile.
2. Use of pearl millet products in their dietary habit.
3. Information regarding their knowledge w.r.t. preparations of different type of recipes from pearl millet which have more iron and zinc and their method of preparation.
4. Consumption pattern of different local Pearl millet preparations in their diet terms of their frequency observations.
5. Hemoglobin estimation using Cyanmethaemoglobin technique and classified according to WHO classification.

This is a control group, only general advice regarding the dietary modification stressing the role of enhancers and inhibitors in diet, useful preparations of pearl millet etc. was given at the time of survey.