

Do Mothers in Southwest Ethiopia Use Fermentation and Malting for Processing Complementary Foods?

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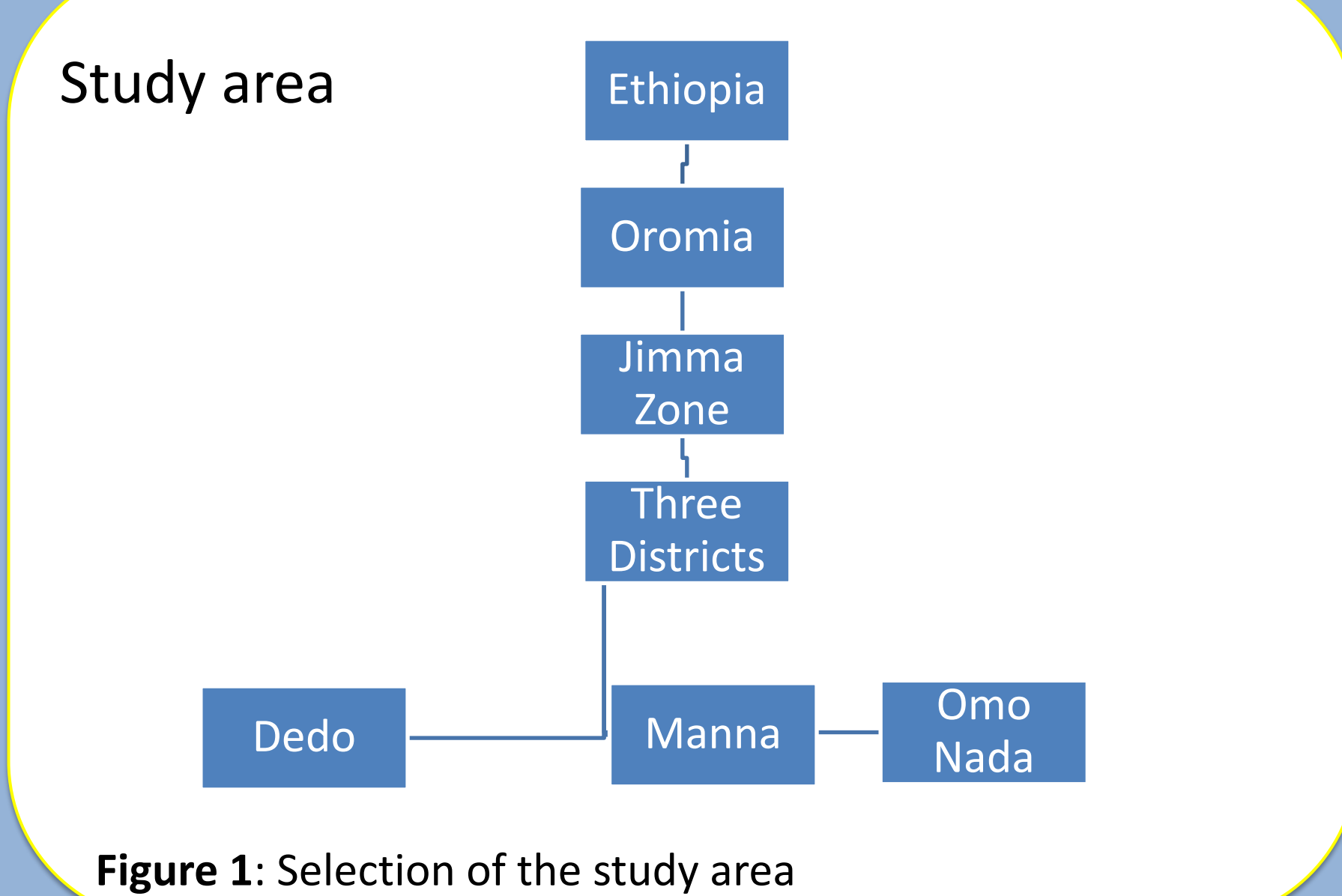
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Introduction

- Poor complementary feeding is a significant driver of malnutrition and infant and child mortality while many more are suffering from some degree of sub-optimal health and/or development due to micronutrient deficiencies.
- However, utilization of traditional food processing methods such as fermentation and malting of indigenously developed cereal-based food have irreplaceable role in improving nutritional qualities of complimentary foods especially in developing countries

- The objective of this study was to assess use of fermentation and malting in processing complementary food and associated factors among index mothers of children aged 6-23 months in Jimma zone, Southwest Ethiopia 2018/19.

Methods



Sample size determination

$$n = \frac{(Z\alpha/2)^2 p (1-P)}{d^2}$$

Where

- $p = 50\%$ of mothers use of fermented and malting food processing practice,
- $Z\alpha/2 =$ Standard normal variable at 95% confidence level (1.96),
- $d =$ Precision (marginal error) = 0.05.

Data collection

- interviewer administered pre-tested semi-structured questionnaires

Data quality control

- Questionnaire translated to local language, pretested on 5% of the samples, trained data collectors

Data processing and analysis

- EPI-data version 3.1
 - Coding and entry
- SPSS version 21
 - Descriptive statistics & binary logistics regression

Results

Socio-demographic characteristics of respondents

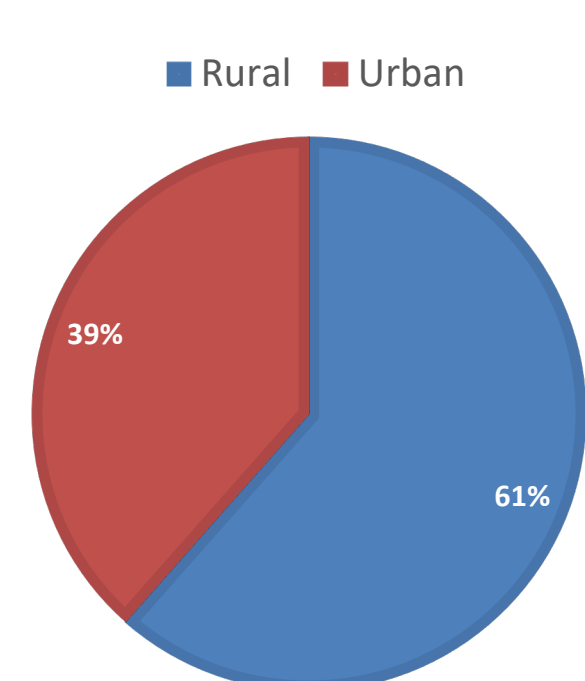


Figure 2: Residence

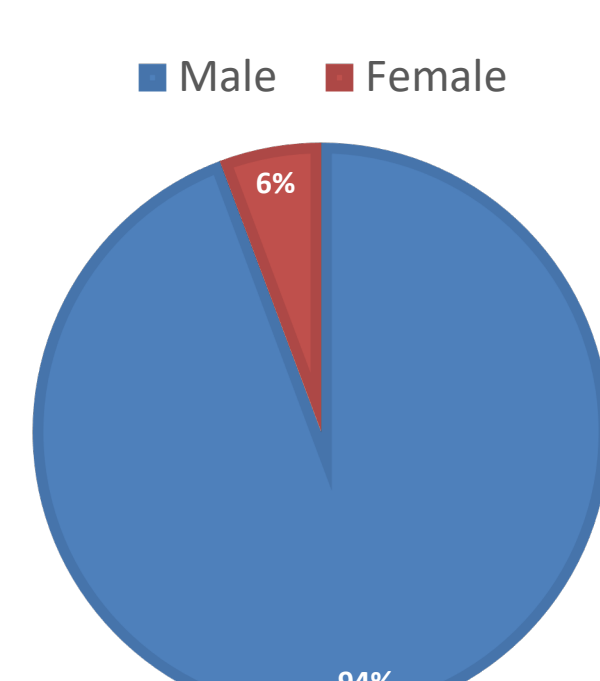


Figure 3: Household head

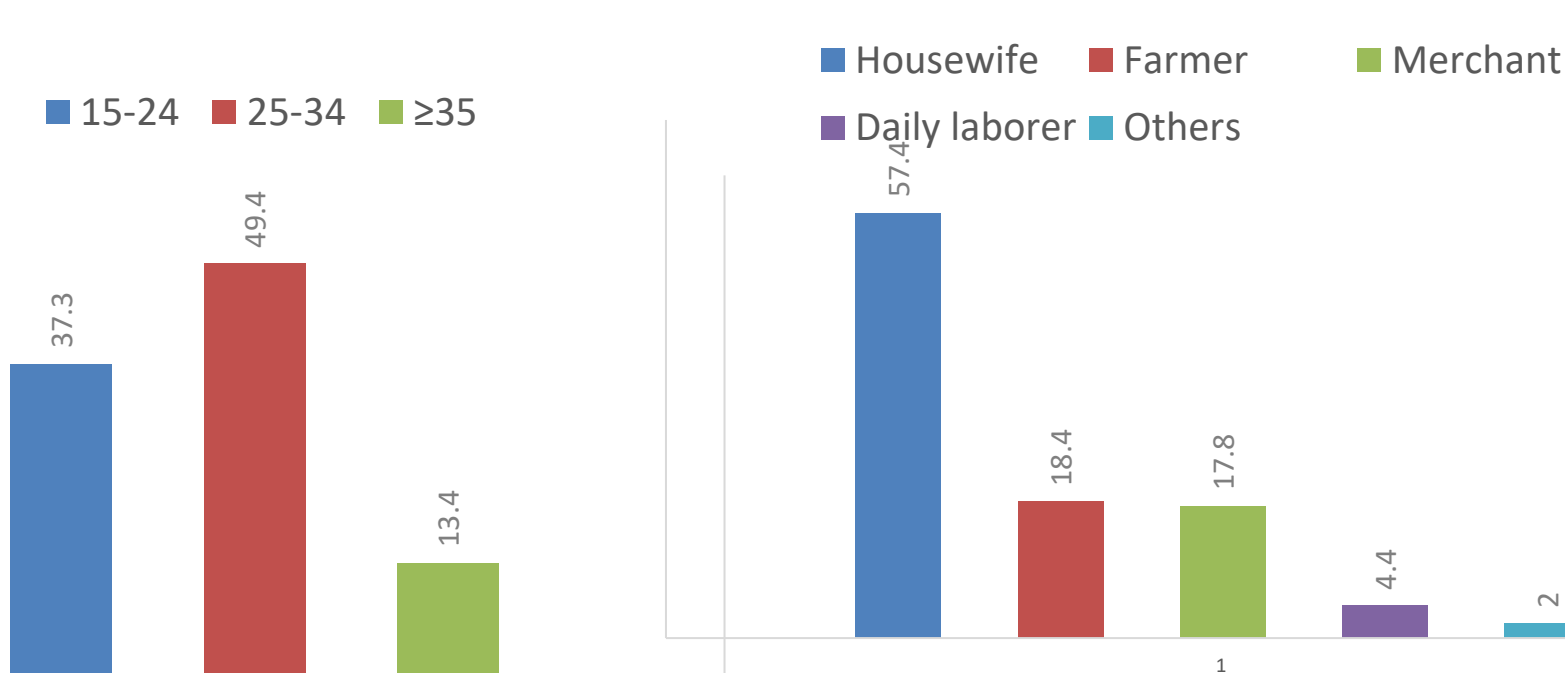


Figure 4: Maternal age

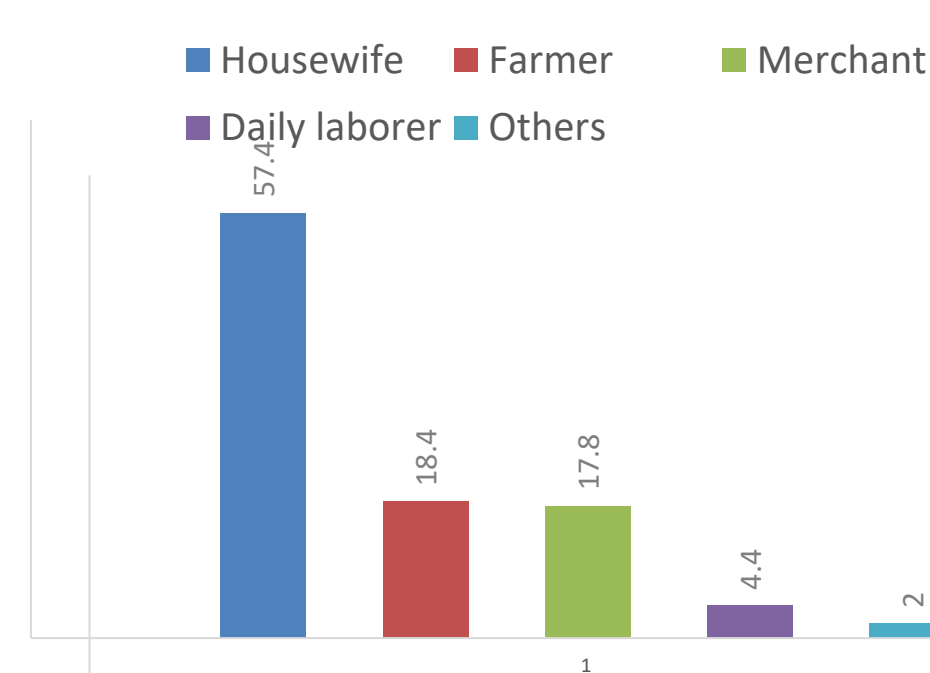


Figure 5: Maternal occupation

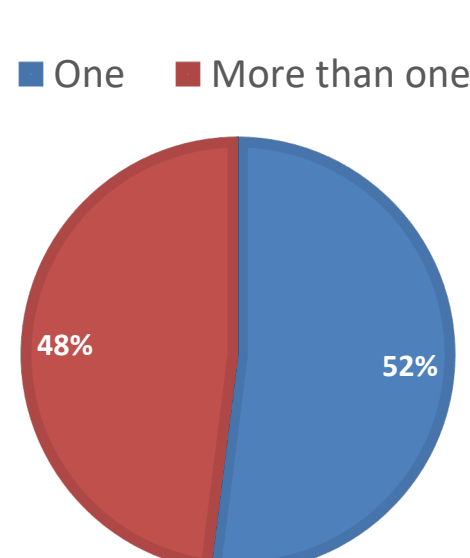


Figure 6: Number of children <5

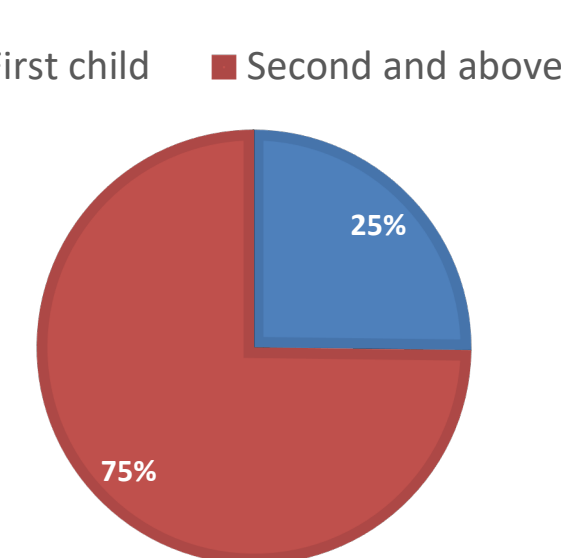


Figure 7: Child birth order

Use of fermentation in processing of complementary food

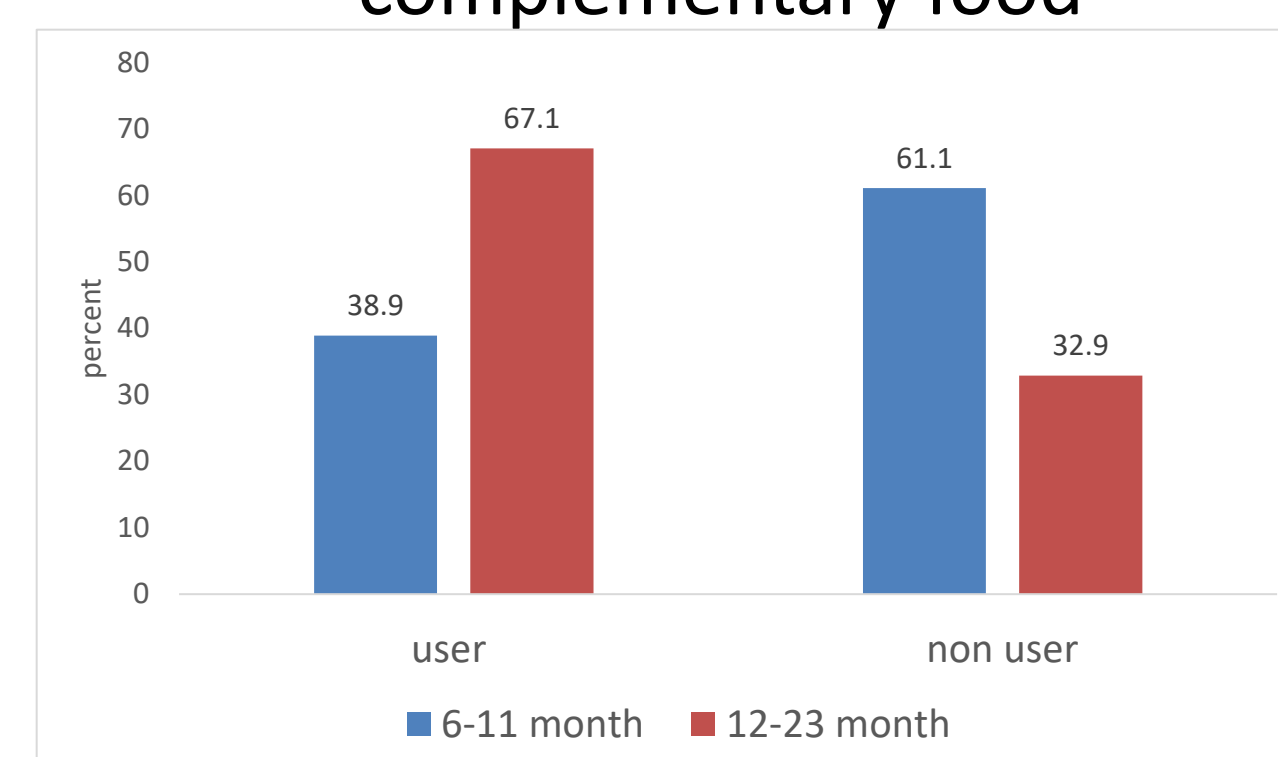


Figure 8: Distribution of maternal use of fermentation by age in month in Jimma Zone, Southwest Ethiopia, April 2018/19

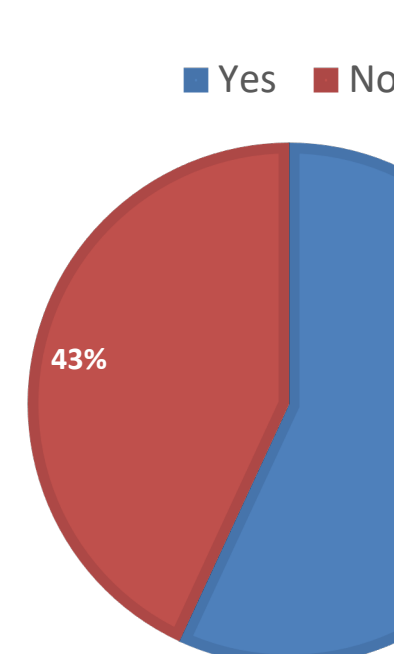


Figure 9: Use of fermentation

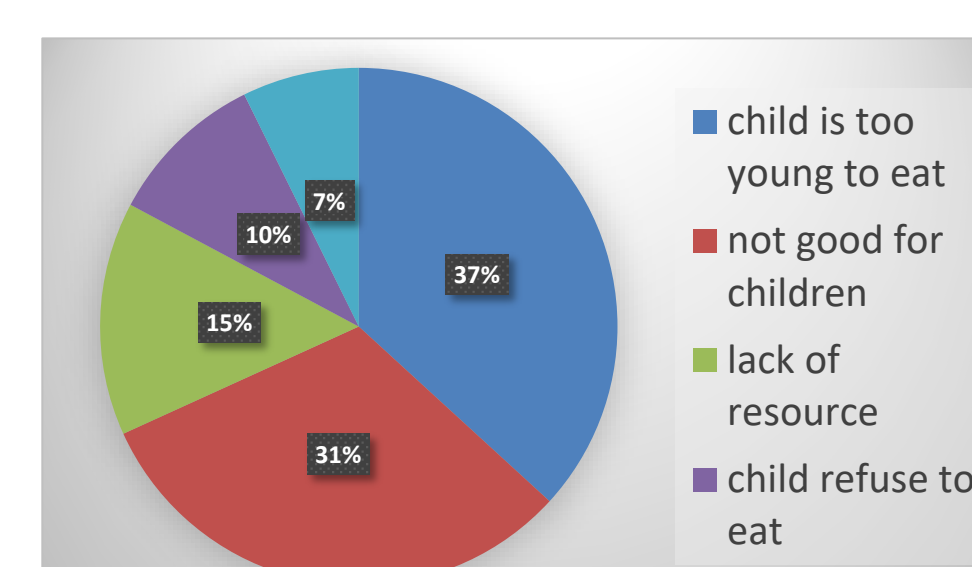


Figure 10: Reason for not using fermentation

Variable	Category	Use of Fermentation in processing of CF				
		Yes	No	COR (95% CI)	AOR (95% CI)	P value
Child age		56.9	43.1	1.11(1.08,1.15) **	1.12(1.08,1.16)	<0.001
Complementary feeding advice	No	60.6	39.4	1.27(0.92,1.76)	2.0(1.34,2.99)	0.001
Maternal formal education	Yes	54.7	45.3	1	1	
	No	62.1	37.9	1.66(1.21,2.29) *	1.95(1.33,2.86)	0.001
Diarrheal morbidity in a year	Yes	49.6	50.4	1	1	
	No	61.6	38.4	1.48(1.08,2.04)*	1.88(1.28,2.75)	0.001
Fermentation improve test	No	46.2	53.4	1	1	
	Yes	78	22	4.08(2.78,5.93)	6.52(4.2,10.12)	<0.001
Fermentation improve	No	51.9	48.1	1	1	
	Yes	91.4	8.6	9.8(4.44,21.6)	16.5(7.12,38.4)	<0.001

Table 1: Factors associated with use of fermentation in processing of complementary food

Use of malting in processing of complementary food

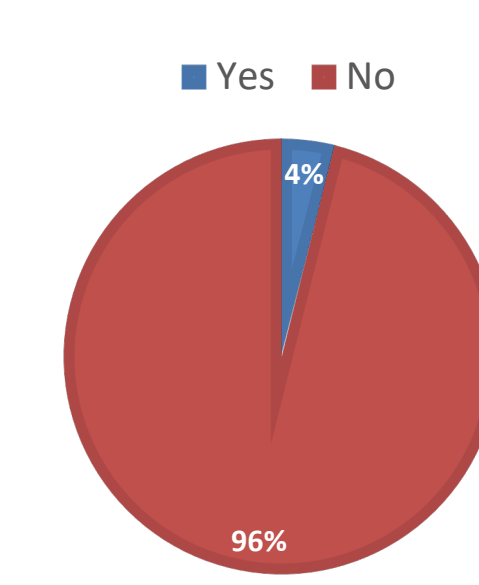


Figure 13: Use of malting

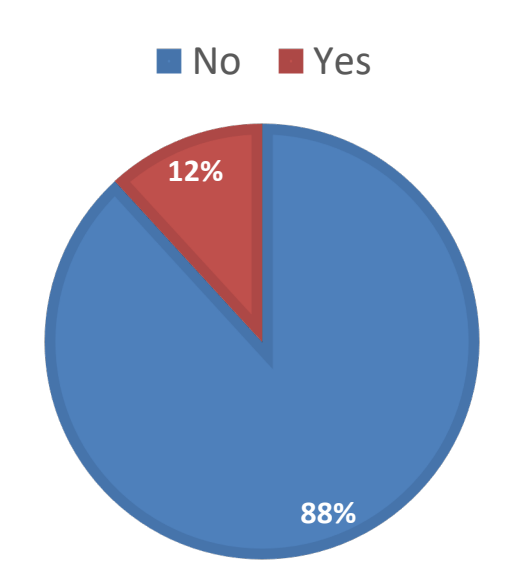


Figure 14: Preparation of malted flour

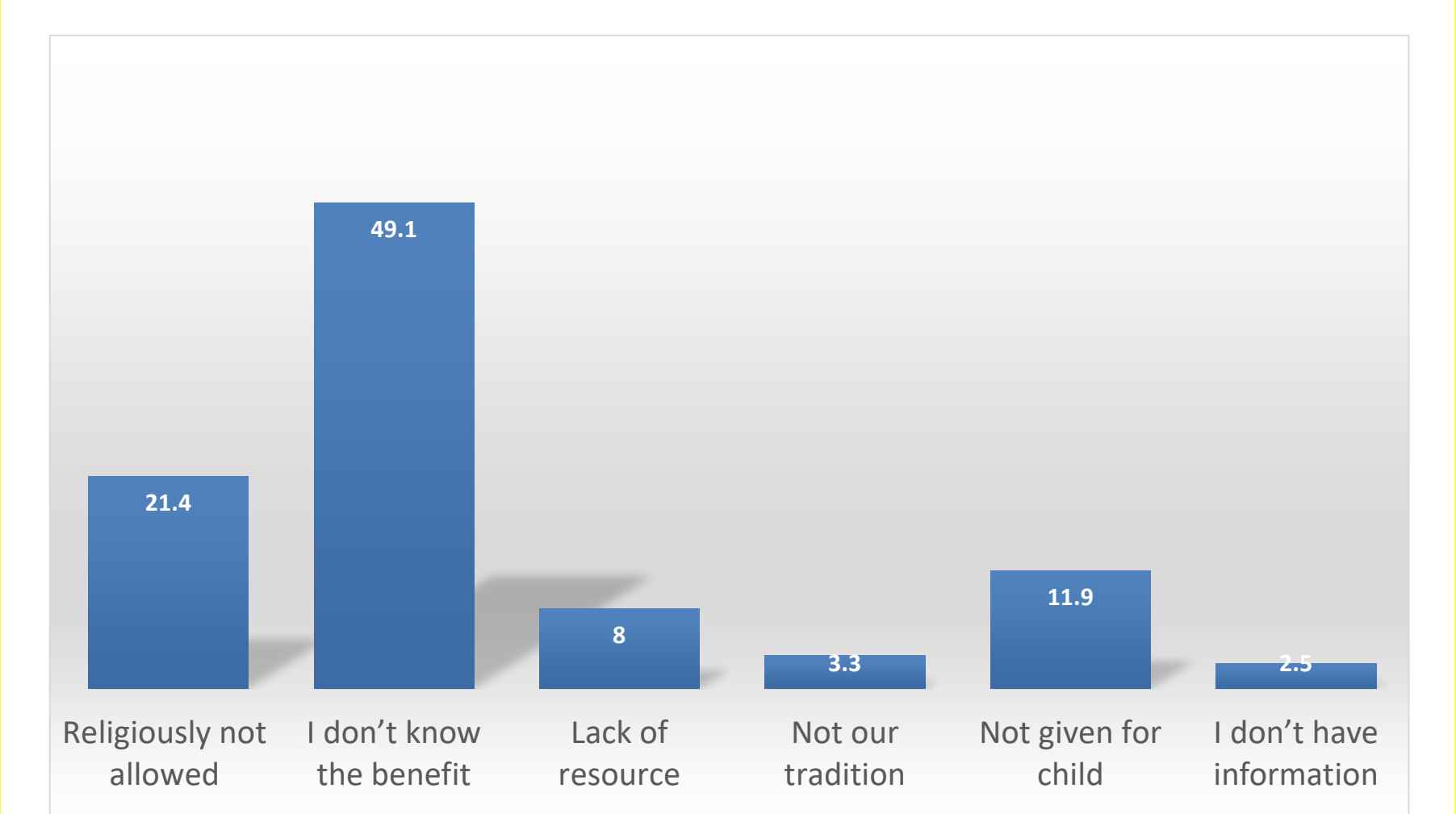


Figure 15: Reason for not using malted flour

Variable	Category	Use of Malting in processing of CF				P value
		Yes	No	COR (95% CI)	AOR (95% CI)	
Maternal age	15-24	3	97	0.26(0.09,0.71)	0.32(0.1,1.01)	0.052
	25-34	2.9	97.1	0.25(0.09,0.65)	0.3(0.1,0.89)	0.03*
	>34	10.6	89.4	1	1	
preparing of malt flour	Yes	25.3	74.7	31.4(12.04,81.01)	29.49(11.2,77.59)	<0.001*
	No	1.1	98.9	1	1	

Table 2: Factors associated with use of malting in processing of complementary food

Conclusions

- Majority of participants used fermentation but not malting as a food processing method for processing of complementary foods.
- Age of the child, formal education, complementary feeding advice, diarrheal morbidity in a year, fermentation improve digestibility and fermentation improve test were independent predictors of not using fermentation.

- Therefore, there is a need for nutrition education of mothers on the benefit of malting and fermentation.

Acknowledgements

