

# Reproductive calendar of the Zenú and Embera indigenous peoples of the Eyabida and Chamibida subgroups from Antioquia (Colombia)

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## Reproductive calendar of the Zenú and Embera indigenous peoples of the *Eyabida* and *Chamibida* subgroups from Antioquia (Colombia)

**Objective.** This work sought to compare the reproductive calendar of the Zenú and Embera ethnicities of the *Eyabida* and *Chamibida* subgroups in Antioquia, Colombia from 2011 to 2013. **Methodology.** This was a sociodemographic study of purposive sampling through the reproductive history technique, conducted with 165 indigenous women older than 10 years of age. **Results.** The reproductive calendar is characterized by an age of menarche between 12 and 13 years for both ethnicities; entry to union with a partner occurs 30 months and more in all groups; the first pregnancy 7.9 months after the entry to union with a partner for the *Eyabida*, 14.0 months for the *Chamibida*, and 11.3 months for the Zenú; the first delivery happens at 15 years of age among the Zenú, at 16 and 17 for the *Eyabida* and *Chamibida*, respectively. The use of Western contraceptive methods is highlighted in the ethnicities. **Conclusion.** For the ethnicities studied, early ages of onset of reproductive life are noted, along with the fastness of the divergent pattern conserved since the late 1990s for the *Chamibida* and the growing use of contraceptive methods to limit the number of children.

**Key words:** reproductive behavior; indigenous population; women; Colombia.

## Calendario reproductivo de los pueblos indígenas Zenú y Embera de los subgrupos *Eyabida* y *Chamibida* de Antioquia (Colombia)

**Objetivo.** Comparar el calendario reproductivo de las etnias Zenú y Embera de los subgrupos *Eyabida* y *Chamibida*, Antioquia, Colombia, del 2011 al 2013. **Metodología.** Estudio sociodemográfico de muestreo intencionado mediante la técnica de historia reproductiva, hecha a 165 mujeres indígenas mayores de 10 años. **Resultados.** El calendario reproductivo se caracteriza

por una edad de menarquia entre 12 y 13 años para ambas etnias; la entrada a la unión ocurre 30 meses y más en todos los grupos; la primera gestación 7.9 meses después de la entrada a la unión para las *Eyabida*, 14.0 meses para las *Chamibida* y 11.3 meses para las Zenú; el primer parto sucede a los 15 años entre los Zenú, a los 16 y 17 para los *Eyabida* y *Chamibida*. Se destaca el uso de métodos anticonceptivos occidentales en las etnias. **Conclusión.** Para las etnias estudiadas se destacan edades tempranas de inicio de la vida reproductiva, la solidez del patrón divergente que se conserva desde finales de los 90 para los *Chamibida* y el uso creciente de métodos anticonceptivos para limitar el número de hijos.

**Palabras clave:** comportamiento reproductivo; población indígena; mujeres; Colombia

### Calendário reproductivo dos povos indígenas Zenú e Embera dos subgrupos Eyabida e Chamibida de Antioquia (Colômbia)

**Objetivo.** Comparar o calendário reproductivo das etnias Zenú e Embera dos subgrupos *Eyabida* e *Chamibida*, Antioquia, Colômbia 2011 a 2013. **Metodologia.** Estudo sócio-demográfico de amostragem intencionada mediante a técnica de história reprodutiva, feita a 165 mulheres indígenas maiores de 10 anos. **Resultados.** O calendário reproductivo se caracteriza por uma idade de menarquia entre 12 e 13 anos para ambas etnias; a entrada à união ocorre 30 meses e mais em todos os grupos; a primeira gestação 7.9 meses depois da entrada à união para as *Eyabida*, 14.0 meses para as *Chamibida* e 11.3 meses para as Zenú; o primeiro parto sucede aos 15 anos entre os Zenú, aos 16 e 17 para os *Eyabida* e *Chamibida*. Destaca-se o uso de métodos anticonceptivos ocidentais nas etnias. **Conclusão.** Para as etnias estudadas se destacam idades temporãs de início da vida reprodutiva, a solidez do padrão divergente que se conserva desde finais dos 90 para os *Chamibida* e o uso crescente de métodos anticonceptivos para limitar o número de filhos.

**Palavras chave:** comportamiento reproductivo; população indígena; mulheres; Colombia

## Introduction

For the indigenous population, the events of the reproductive cycle from menarche until menopause, pregnancy, delivery, and post-delivery are seen as natural events linked to the natural, social, and spiritual world, hence, reproductive health is associated to norms or rules of kinship (marriage, partner, children) and rituals or beliefs (protection against evil, intentions), thus, the importance this event has upon their Cosmo vision and of understanding it for decision-making contextualized within the space of the political, economic, and social. However, few studies have been published at the Latin American level in this respect and are characterized by disaggregated and fragmented information,<sup>1</sup> but which are important because they shed light on the heterogeneity of situations, contexts, and circumstances confronted by these groups in the

Latin American scenarios. Thereby, it is essential to transcend to the general information, to make visible, within these peoples, the specific groups that concentrate the inequities; and that permit guiding the implementation of policies aimed at diminishing the vulnerability and social disparity that affects certain segments and social groups, particularly the indigenous peoples.<sup>2</sup> In that sense, studies on the population dynamics and aspects surrounding reproduction in indigenous women are of valuable interest for the State and its institutions, academia, and indigenous organizations.<sup>3</sup>

Three ethnicities inhabit in the department of Antioquia (Colombia), which for 2011 had 30,396 members according the census by the Indigenous Management of Antioquia.<sup>4</sup> The ethnicity with the highest representation is the Embera with

64.2%, which is divided into three subgroups: *Eyabida* with 78.7% - distributed principally in the regions of Urabá and Occidente; *Chamibida* with 17.3%, who concentrate especially in the southwest of Antioquia; and *Dobida* with 4.1% with settlements in riverbanks of the Atrato River and its slopes; followed by the Zenú with 27.4%, which is distributed in Urabá and Bajo Cauca; and, lastly, the Gunadule (Kuna Tule) with 4.1%, who are specifically near the municipalities of Turbo and Arboletes.

Studies have been conducted with these indigenous peoples with respect to reproduction, like those by Alcaráz, Arias, and Gálvez (1988);<sup>5</sup> Gálvez *et al.* (1998);<sup>6</sup> Arias (2002);<sup>7</sup> Arias and Valencia (2011),<sup>8</sup> which mark a rarely explored line of work that accounts for interest that has remained for nearly three decades, where the results conserve some common elements, like, the high fertility is linked to physical and cultural survival, to support of an ethnicity project, as well as to the acquisition and maintenance of the prestige of the indigenous woman. However, more recent studies, like that by Valencia in 2012,<sup>9</sup> propose some historical and relational variations that express the transformations in the reproductive decisions of indigenous individuals and groups, sought to be approached in this case. In this sense, it is necessary to continue with these types of studies that account for the specific reproductive dynamics of the indigenous peoples from the department of Antioquia as contribution to knowledge and follow up on similarities and differences in reproductive terms.<sup>3</sup> Due to the aforementioned, the aim of this article advances in that need to characterize the reproductive calendar of the indigenous populations in Antioquia, through comparison between the Zenú and Embera ethnicities of the *Eyabida* and *Chamibida* subgroups.

## Methodology

In agreement with the previously stated, the interest in this article was to reveal the research

results for two ethnicities: Zenú and Embera with their *Eyabida* and *Chamibida* subgroups, considering that these represent around 95% of the indigenous population of Antioquia; besides, the subgroups for the Embera ethnicity present substantial differences in reproduction, according to prior studies<sup>8,9</sup> and due to the precarious information obtained from the Tule ethnicity that did not permit comparisons with the constituent elements from the reproductive calendar. The communities of each ethnicity were selected in consensus with the indigenous authorities that represent them. Additionally, suitability criteria were followed according to Minayo,<sup>10</sup> bearing in mind their demographic peculiarities, geographic accessibility, acceptance from the communities to participate; and the scope of the research in time and resources. In this sense, the following were selected: the communities of Caracolí from the municipality of Necoclí, for the Zenú ethnicity; El Pital from the municipality of Dabeiba, for the Embera *Eyabida* ethnicity; and Cristianía de Jardín, for the Embera *Chamibida* ethnicity. The study was conducted between 2011 and 2013.

To characterize the reproductive behavior of the ethnicities studied, the female reproductive history technique was applied, which has been implemented and validated in different studies with indigenous population from the department of Antioquia since the 1980s<sup>5-9</sup> to the present, proving its viability and usefulness; this technique permits achieving a complete record of the female reproductive life through recognition of the ages of the principal events of the women interviewed (menarche, onset of sexual relationships/union with a partner, pregnancies, delivery, etc.). For the particular case of this article, the calendar is represented with the characterization of its stages or *timing* and other complementary variables, like intergenerational intervals (IG) and use of contraceptive methods. In total, 165 reproductive histories were obtained in both ethnicities; 50 in the Zenú ethnicity and 115 in the Embera ethnicity: 53 in the *Eyabida* subgroup and 62 in the *Chamibida*; the scenarios where the information was obtained were in the homes of the participating women and in the schools of the communities. The selection

criteria for the participants were: women over 10 years of age who wished to participate freely in the study.

The information was collected by nursing professionals and an anthropologist experienced in health matters with these groups; approval was secured from the Indigenous organization of Antioquia, as well as permits from the indigenous authorities from the reservations and the oral informed consent from the participating women of all ages. It is indicated through the indigenous context the importance of their being an articulated group in which decisions are collective and in which women assume the role of mother and spouse at a very early age, hence, culturally they are allowed to make autonomous decisions. Likewise, respect for the spoken word is highlighted along with the agreement with the communities, which is why it is of primary interest to establish a relationship of trust with the researchers without the mediation of a document; besides, the Indigenous Council or Governor – the maximum authority in the community – is the guarantor of the process. Most of the time, support was received from indigenous health promoters and other leaders from the communities, who translated or offered clarifications whenever necessary.

The analysis considered the comparability criteria, given by studies that followed the same female reproductive history technique with indigenous population and which considered the same demographic variables.<sup>5-9</sup> All this, to enable comparison over time of the same variables that permit recognizing persistence and changes in the reproductive behavior of these poorly studied types of populations. To organize the information, manual deterring was conducted of the reproductive histories and of the data, placing these in an Excel spreadsheet. Basic calculations were performed of means, minimums, and maximums, as well as the proportions and comparisons for each stage of the reproductive calendar.

At all times, the study adhered to processes of methodological rigor, like reliability, soundness, and validation of the results and discussion.<sup>11</sup>

Regarding the reliability and soundness, the work was conducted through the application of a widely developed technique that enabled careful standardization of the procedures and triangulation of the views of the researchers on the study topic. The authors also watched over the coherence of the information and validity of the study, through consistency check and triangulation among data, among researchers, among theories, or among methodologies.<sup>12</sup> A preliminary report was generated from this process, which was presented to each community to validate the results and discussion to guarantee the veracity of the information according to the interpretation of the researchers; enable correction of some inaccuracies and the opportunity to make the data comprehensible for them as sovereigns of their information. These reports were adjusted and copies were left at each hierarchical level of the indigenous organization. All the aforementioned was carried out by following the guidelines contained in Resolution 008430 of 1993 by the Ministry of Health<sup>13</sup> and the ethical principles applied in prior works with indigenous peoples, which highlight respect for the rights of these populations and recognition of their peculiarities.<sup>14</sup>

## Results

The reproductive calendar is presented for 165 women between 10 and 84 years of age and is summarized in Table 1, which provides the mean, minimum, and maximum ages of the reproductive events of the Embera and Zenú indigenous women: menarche, entry to union with a partner, first pregnancy, and first delivery.

The mean age of the menarche for both indigenous ethnicities is not over 13.0 years. Minimum ages of 10 years are noted in both ethnicities with maximum ages between 15 and 17 years, with the highest in the Embera *Chamibida*. The average age of entry to union with a partner is lower for the Embera *Chamibida* with 27.9 months, followed by the Zenú women with 33.2 months, and lastly, the Embera *Eyabida* with 38.9 months. In general,

the Embera-*Chamibida* and *Eyabida* women and Zenú women enter the union 2.8 years after the menarche. The mean age of entry into union with a partner follows the same pattern as the menarche, that is, lower for the Embera *Eyabida* (14.9 years), followed by the Zenú (15.5 years),

and higher for the Embera *Chamibida* (17.9 years). When comparing these ages, a 3-year difference is noted among women from both Embera subgroups, even showing the greater similarity among women from different ethnicities, as the case of the Embera *Eyabida* and Zenú.

**Table 1.** Reproductive calendar of the Embera and Zenú women from Antioquia, Colombia, 2013

Reproductive calendar		Ethnicity/subgroup	Embera <i>Eyabida</i> n=53	Embera <i>Chamibida</i> n=62	Zenú n=50
Menarche	Number		49	61	50
	Mean		12.0	13.0	12.8
	Standard deviation		0.8	1.6	1.3
	Minimum		10.0	10.0	10.0
	Maximum		15.0	17.0	16.0
Entry into union	Number		42	33	49
	Mean		14.9	17.9	15.5
	Standard deviation		2.4	4.0	2.9
	Minimum		10.0	14.0	10.0
	Maximum		22.0	29.0	26.0
First pregnancy	Number		41	29	47
	Mean		16.0	18.7	16.1
	Standard deviation		2.9	4.3	3.2
	Minimum		10.0	14.0	10.0
	Maximum		22.0	29.0	26.0
First delivery	Number		16.9	19.5	16.8
	Mean		41	27	47
	Standard deviation		2.9	4.4	3.2
	Minimum		11.0	15.0	11.0
			22.0	30.0	27.0

Fifty percent of the Embera *Eyabida* women are partnered at 15 years of age or less, while 50% of the Embera *Chamibida* are partnered at 17 years of age. Additionally, both are differentiated from the Embera *Chamibida* for whom this occurs at 17 years of age. Regarding the minimum ages, for the Embera *Eyabida* and the Zenú these were found at 10 years. In this sense, after the union in marriage, the Embera *Eyabida* women got pregnant after 7.9 months, while the Embera *Chamibida* did so 14 months after; the Zenú are

in the intermediate of the Embera subgroups with 11.3 months after.

The age of the first pregnancy among women from distinct ethnicities has a high relation that that of the Embera subgroups, thus: the Embera *Eyabida* and Zenú share a mean age of 16 years, contrasting with the Embera *Chamibida* who surpass the rest of the indigenous women by two years (18.7 years). In the Embera group, 50% of the *Eyabida* women have their first pregnancy

at 15 years of age, this percentage is similar for the Embera *Chamibida* for whom this occurs at 17 years of age and more. It is highlighted that, for this stage of the reproductive life, the mean age of the first delivery among Zenú women (16.8 years) and Embera *Eyabida* women (16.9 years) is similar, in contrast with that of the *Chamibida* women that exceeds by three years the mean of the other indigenous women (19.5 years). For this stage, the most-frequent age of the first delivery is 15 years for the Zenú women, 16 for the Embera *Eyabida* women, and 17 for the Embera *Chamibida* women. The minimum of 11 years of age is noted for the first delivery in the Embera *Eyabida* and Zenú women, and for the Embera *Chamibida* women the first delivery occurred at 15 years of age; this accounts for the fact that an important percentage of the indigenous women are adolescent mothers: 63.5% among the Zenú, 54.8% among the Embera *Eyabida*, and 25.8% in the Embera *Chamibida*.

Other variables of importance, to delve into the analysis of the study of the reproductive behavior, are the IIG and use of contraceptive methods to limit the number of offspring. In this study, the IIG average, Table 2, was conducted for 101 women who at the moment of collecting the information had had at least one delivery and represent more than half (61.2%) of the participants. A mean of 20.3 months is noted for this calculation for the Embera *Eyabida*, 26.5 for the Embera *Chamibida*, and 33.5 for the Zenú. The prior is reinforced in the analysis of the IIG averages per group in which 71.4% of the Embera *Eyabida* women have IIG below 24 months, while the Embera *Chamibida* and Zenú women have around 24% less for the same range in 45.5% and 47.7%, respectively. It should be highlighted that more than half the *Chamibida* women (54.5%) and Zenú women (52.3%) have IIG averages of 24 months and more, which contrasts with those of the *Eyabida* women.

**Table 2.** Intergenic intervals (IIG) of 101 Embera and Zenú women. Antioquia, Colombia, 2013

Months	Ethnicity	Embera <i>Eyabida</i>		Embera <i>Chamibida</i>		Zenú		Total
		n	%	n	%	n	%	N
1 to 11		8	22.9	1	4.5	4	9.1	13
12 to 23		17	48.6	9	40.9	17	38.6	43
24 to 59		10	28.6	11	50.0	20	45.5	41
60 and more		0	0.0	1	4.5	3	6.8	4
Total		35	100.0	22	100.0	44	100.0	101

The contraception analysis considered women who had initiated their active sex life (138). More than half of the participants have used some contraceptive method at least once in their lives. This is how 30.2% of the *Eyabida* plan the number of offspring, a percentage duplicated by the *Chamibida* (63.9%) and Zenú (65.3%) women. Of the ethnicities in the study, the highest percentage not using any method is for the *Eyabida*, which close to 50% (Table 3).

From the contraception methods shown in Table 4, all the subgroups share the use of injected anovulators, which is preferred by Zenú and Embera *Chamibida* women with 40.6 and 34.8%, respectively, and is less used by *Chamibida* women. For the *Eyabida*, one of every four women uses subdermal implants that last an average of five years. Other methods like natural ethnobotanics are only reported by 12.5% of the mountain *Eyabida* women.

**Table 3.** Use of contraception methods in Embera and Zenú women. Antioquia, Colombia, 2013

Use	Embera <i>Chamibida</i>		Embera <i>Eyabida</i>		Zenú	
	n	%	n	%	n	%
Yes	23	63.9	16	30.2	32	65.3
No	6	16.7	26	49.1	17	34.7
No info	7	19.4	11	20.8	0	0.0
Total	36	100.0	53	100.0	49	100.0

**Table 4.** Contraception methods used by Embera and Zenú women. Antioquia, Colombia, 2013

Method	Embera <i>Chamibida</i>		Embera <i>Eyabida</i>		Zenú	
	n	%	N	%	N	%
Oral anovulatory	4	17.4	0	0.0	4	12.5
Injected anovulatory	8	34.8	1	6.3	13	40.6
Subdermal implants	4	17.4	4	25.0	0	0.0
IUD	4	17.4	0	0.0	5	15.6
Tubectomy	3	13.0	2	12.5	4	12.5
Natural ethnobotanics	0	0.0	2	12.5	0	0.0
No info	0	0.0	7	43.8	6	18.8
Total	23	100.0	16	100.0	32	100.0

## Discussion

This study shows how the ages of menarche, entry to union with a partner, first pregnancy, and first delivery among Embera *Chamibida* women come later when compared to Embera *Eyabida* and Zenú women; this pattern of reproductive behavior is classified in other studies as divergent with respect to the situation of the rest of the indigenous women from Antioquia<sup>6,7,15</sup> In these studies as in the current one, the differential reproductive behavior of the *Chamibida* women is related to the continued interethnic contact that has supposed that this subgroup adopts practices of the Western culture, which often go against the Embera cultural guidelines that promote population growth as an input for ethnic survival.<sup>7,9</sup>

Added to the aforementioned, we must consider the strategic location of the Cristianía reservation,

which is crossed by the *Troncal del Café* roadway at distances not more than 20 minutes from the municipalities of Andes and Jardín, in the southwest of Antioquia; which favors access and use of health services and of social development offered by the State. In this sense, it can be highlighted, for example, how since at least the 1980s the Embera *Chamibida* indigenous from Cristianía have had growing acceptance of the use of Western contraceptive methods,<sup>6,7,15</sup> integration of biomedical therapy during pregnancy and childbirth, and schooling of the women; issues classified as determinant of the female reproductive behavior.<sup>16</sup>

It is worth mentioning that the data from this research, related to the Embera *Chamibida* keep close similarity with that reported by Arias<sup>15</sup> in the same community for 2000; that is, events

of menarche, union with a partner, pregnancy, and childbirth exhibit the same ages in the last 12 years, hence, the situation has not changed among these indigenous people. Now, the results of this study show differences presented by the indigenous women of the Embera ethnicity in terms of ages of the reproductive calendar. In this sense, the *Eyabida* women show lower mean ages than the *Chamibida* women, which may be explained by differences in ways of life,<sup>6</sup> especially in the posture one or another subgroup has with respect to the woman's role, the possibility and importance of their education, the decision with respect to the desire of having a partner and having children, to limit the number of children through the use of contraceptive methods, and – definitely – to the “relative autonomy” with respect to reproductive decisions.<sup>15</sup>

In contrast to that described by the *Chamibida* indigenous people from the southwest of Antioquia, the *Eyabida* from the community of El Pital in western Antioquia present population, geographic, and sociocultural characteristics that influence upon the cultural interaction with the hegemonic society, that is, these indigenous people from “the mountain” have difficulties in access to health services and education, aspects that impact upon the reproductive behavior.<sup>6,9,17</sup> The Embera *Eyabida* women, for example, on few occasions resort to health services to receive medical care and control during pregnancy and delivery, and the use of contraceptive methods is only being socially accepted in recent years.<sup>3,18</sup> Also, upon comparing the reproductive calendar of the Embera *Eyabida* women in this study to that reported by Valencia *et al.*<sup>9</sup> for a community also from the west of Antioquia and from the same Embera subgroup, it was found that the ages of menarche and union with a partner are similar in both studies; however, differences of over one year occur in the events of pregnancy and childbirth for the women from the present study. The previous warrants further detailed analysis to account for the causes of these differences, which cannot be explained only through higher proportions in the use of contraceptive methods: 58% for Embera *Eyabida* from Nusidó in the study by Valencia *et al.*<sup>9</sup> against 30.2% in the *Eyabida* from this study.

Regarding the reproductive calendar of the Zenú indigenous people, the results relate well to those found for the Embera *Eyabida*, which could be explained by the similarities in the type of settlement from one and another group, which, in general, are in dispersed areas with geographic difficulties for access to the municipality and, hence, to institutional health, education, and social development services; these aspects and others of structural type, like poverty and subordination account for these indigenous people having greater socioeconomic, territorial, ethnic, and gender inequities the Embera *Chamibida* must endure, which, undoubtedly, explains the differences in the reproductive calendars.<sup>3,16</sup>

Another element that suggests searching for and deciphering its sense is the use of contraceptive methods that, in both ethnicities, report percentages above 30% and that studies like that reported by Gálvez<sup>6,18</sup> describe it as a socially discouraged practice, given that for the indigenous people of Antioquia the ideal is to reproduce the group, therein, the promotion of high fertility as an ethnic survival strategy.<sup>6,15,18</sup> Nevertheless, transformations have not been reported in the reproductive behavior of the indigenous people of Antioquia<sup>6,18</sup> that have to do, mainly, with the use of contraceptive methods by the indigenous ethnicities and subgroups among which social and individual acceptability of these types of strategies had not been previously reported. This change goes in hand with international postulates that consider that family planning results in benefits for the health of the women, children, and families, inasmuch as they offer the possibility of spacing births, reducing maternal mortality, preventing unwanted or high-risk pregnancies, as well as sexually transmitted diseases, some forms of cancer and other health problems.<sup>19</sup>

As noted, the reproductive calendar of the Embera and Zenú groups is framed within situations of higher order to the social organization of the ethnicity and which obeys to a series of structural inequalities that, interdependently, are configured to influence on how the indigenous people experience biological and cultural reproduction.



In this respect, studies by the Economic Commission for Latin America (CEPAL, for the term in Spanish) indicate that unequal access to State goods and services, like healthcare, formal education, adequate nutrition, information and power of decision, among others, is determinant in the persistence of inequities in health and over-mortality in indigenous peoples in Latin America;<sup>20</sup> hence, thinking and constructing new forms to bridge the gap between Western society and the indigenous peoples is a need that goes in hand with the importance of recognizing cultural diversity in the ways of life of these populations, given that these strongly affect the reproductive decisions.

After comparing the reproductive calendars of the indigenous peoples of Antioquia: Zenú and Embera in their *Eyabida* and *Chamibida* subgroups, three central aspects are noted, like the cultural peculiarities of each subgroup expressed by early ages of the onset of reproductive life; the fastness of the divergent pattern conserved since the late 1990s for the *Chamibida*; and the growing use of contraceptive methods to limit the number of children, which is an alternative that resists against the cultural guidelines that dictate having as many children as possible to guarantee survival. The indigenous communities undertake important efforts to keep themselves as culturally differentiated groups, which generates challenges to nursing professionals, principally in the practice, which must advance in the development of cultural cares, which articulate professional knowledge and popular knowledge that in sum contribute to the health of the indigenous peoples.

Finally, the question on the physical and cultural continuity of the indigenous people of Antioquia is, today, more valid than ever, this is because the cultural guidelines and prohibitions related to reproduction and sexuality are being transformed by the contradictory actions carried out by individuals and communities as ways of exerting autonomy, or rather, adaptation to the complexities of the contexts inhabited.<sup>21</sup> However, the weight of the structure on the ways and life styles of the Zenú and Embera indigenous people more strongly

determines the fertility than those production actions in micro,<sup>22</sup> that is, the persistence of the colonial situation in Latin America where the indigenous person is subdued<sup>23</sup> clearly affects in that the indigenous subjects in their individual and collective dimension gradually begin to exert control on the excessive population growth, an issue that according to them is associated with the difficult material conditions of life among which are highlighted the precariousness of the work and the territorial narrowness, elements that are conjugated and hinder guaranteeing a good life to numerous offspring.

Notwithstanding the adversity of the living conditions of the indigenous people from Antioquia, the cultural transformations undertaken by subjects and communities and the interethnic friction that signals the intercultural contact with Western society;<sup>24</sup> the focus on the physical and cultural disappearance of the indigenous ethnicities from the department is an argument that cannot be derived from this research because it deals with case studies that portray historical differences and transformations, which support the idea of the cultural change of the ethnicities and that may well suggest the start of the transition of fertility in this population. The study of the behavior of fertility and mortality and changes in the structure and demographic composition in the indigenous peoples from the departmental and national context are themes of necessary and future research that contribute to the academic developments of the social and health sciences and, principally, to the life plans and other projection dispositions of these peoples who place biological reproduction as a weighted mean for continuity as culturally differentiated societies.

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