Associated factors on decision-making process to abortion in Spain

Laia Ferrer[1]

In Spain where contraception is almost universal available (contraceptive prevalence among 15-49 years old women was 80% in 2007)[1] a relevant proportion of pregnancy ended in an induced abortion (IA). According to the official statistics in IA, on 2008 were 115,812 IA giving an abortion rate of 0.36 IA by 1,000 women among 15-49 years old. The proportion of pregnancies ended in IA (abortion ratio) was 18.2%[2].

Reproductive preferences and behaviour vary with socioeconomic and demographic factors, especially by age[3-13]. Not only rates and ratios but also distribution of abortion in Spain by age show different intensity of IA and women profiles. Nevertheless those indicators don't give information about associated factors related to IA and literature is limited in our context[12,13]. As age appears as an important, perhaps the most important, mediated factor in IA, it will be interesting to study associated factors by age group.

The objective to this paper is to study the impact of sociodemographic and reproductive characteristics and factors related to relationship on the decision of Spanish women in different age groups about whether or not to continue a pregnancy.

Methods

All pregnancies which it outcomes is known in Spain in 2008, either in live births and in induced abortion, are obtained from national statistics (birth and induced abortion official statistics). In order to accomplish the objective of the study it was joined in a unique database all births and all IA in Spain on 2008 making the assumption that each pregnancy was from a different woman (it might be a possibility that a women had an abortion and a birth the same year but that probability is very low). The new database included those variables which are common in both official statistics, and some arrangements were done to homogenize categories of variables when it was necessary.

The sociodemographic characteristics of women considered in the database were age, country of birth, Autonomous Community of residence, size of place of residence, level of education and work status. About relationship with a partner it could only be considered cohabitation status. The only reproductive factor took into account was the number of children before last pregnancy.

A descriptive analysis was performed for the main variables for the total sample. The chi square test was computed to compare the proportions of IA by age group. Stratified analysis according

[1] PhD on Demography (in progress). Geography Department at Universitat Autònoma de Barcelona. This extended abstract takes part of the thesis of the author.

to age (<25, 25–34,>=35 years) was used in order to study the impact of different factors on decision-making process to abortion among women belonging to different age groups. The chi square and bivariate regression models were used to analyse the relation between the different factors related to decision (abortion compared with continuation of pregnancy) separately within each age group and for the study sample as a whole. Separate multivariate logistic regression models were run for each of the three age groups to identify factors independently associated with IA. Variables selected for inclusion in the multivariate models were those statistically significant in the bivariate analysis.

Results

Of 627,059 pregnancies which its outcomes is known in Spain on 2008, 17.6% of pregnant women was aged less than 25 years old, 58.0% was between 25-34 years old and 24.4% was older than 34. Three out of four of women were born in Spain (74.9 %) and more than a half lived in a place of residence with more than 50,000 inhabitants (55.8%). A quarter of women achieved a high education level (26.6%) and only 3.2% was a student. Of total sample, 77.4% of women lived with her partner and 53.1% had not any previous children.

Of all pregnancies 18.5% ended in an IA and 81.5% in a birth. By age, women aged less than 25 years old showed a higher proportion of IA (39.4%) than women aged 25-34 years old (14.2%) or women aged 35 or more (13.4%).

Bivariate analysis

Several factors were associated with the decision to terminate a pregnancy in the separate bivariate analysis for each variable. To be non-Spanish, to live in a quite big or big city, to live in Catalonia, not to cohabit with a partner, to have reached a secondary education level and to be a student as well as to have 2 or more previous children were all statistically significant factors in the decision to abort (Table 1).

Table 1. Bivariate Analysis of the risk factors associated with induced abortion. Spain, 2008 (total of abortion, N=114,732)

characteristics	N	%	Chi square	OR	(95%CI)
Country of birth			p<0.001		
Spain	63235	14.0		ref	
Foreign country	51497	30.3		2.69	(2.65-2.72)
Autonomus Community of reisdence			p<0.001		
Catalunya	25379	22.4		ref	
Aragó	3280	19.6		0.84	(0-81-0.88)
Astúries	1679	17.1		0.71	(0.68-0.75)

Balears	3387	21.3		0.94	(0.90-0.98)
Canàries	4882	19.3		0.83	(0.80-0.86)
Cantàbria	728	11.1		0.43	(0.40-0.47)
Castilla- la Mancha	3655	13.9		0.56	(0.54-0.58)
Castilla León	3336	13.7		0.55	(0.53-0.57)
Andalusia	20574	17.2		0.72	(0.71-0.74)
Comunitat Valenciana	11580	17.1		0.71	(0.70-0.73)
Extremadura	1383	11.6		0.45	(0.43-0.48)
Galícia	1981	8.0		0.30	(0.29-0.32)
Madrid	22126	22.2		0.99	(0.97-1.01)
Múrcia	5350	21.9		0.97	(0.94-1.00)
Navarra	765	10.0		0.38	(0.36-0.41)
País Basc	2996	12.5		0.50	(0.48-0.52)
La Rioja	597	14.7		0.60	(0.55-0.65)
Ceuta i Melilla	102	4.1		0.15	(0.12-0.18)
Size of place of residence			p<0.001		
<=10.000 inhab	14033	13.0		ref	
10.001-50.000 inhab	26402	15.7		1.25	(1.22-1.28)
>50.000 inhab	73092	21.0		1.78	(17.4-1.81)
Cohabitation			p<0.001		
Yes	57451	11.8		ref	
No	57423	40.7		5.1	(5.03-5.17)
Education level			p<0.001		
Primary or less	28832	12.6		ref	
Secondary	70042	32.9		3.38	(3.33-3.43)
Superior	16007	10.0		0.77	(0.75-0.78)
Work status			p<0.001		
Other^	93108	19.3		ref	
Student	11615	66.2		8.17	(7.91-8.44)
Housewife	11089	8.7		0.40	(0.39-0.41)
N. of previous children			p<0.001		
0	54792	16.5		ref	
1	30040	14.1		0.83	(0.82-0.85)
2 or +	30944	38.2		3.14	(3.09-3.19)

^ included unemployed, pensioner, employed and unknown category.

Among younger women, the decision to abort was more commonly taken when woman was born in Spain, lived in Madrid or in a quite big or a big city (Table 2). Related to her relationship with a partner, pregnancies were more likely to end in abortion if the woman didn't live with him. The decision was more commonly taken when woman was a student or housewife, although the risk among housewife was less important. To have reached a secondary or higher education level as well as to have 2 or more previous children were also showed a statistical association with abortion decision. Among 25-34 years old women factors more common associated to an abortion were she was non-Spanish, lived in Catalonia, in a quite big or a big city, didn't cohabited with her partner and if she was a student. To have reached a secondary level of education was significantly associated with deciding to abort but not to have reached high level. Reproductive factor is the most important factor associated to abortion, the risk to abort was highest among women with one or more child, especially with two or more children. Among

older women (>=35 years old) having an abortion was more common related to the foreign origin, to live in Catalonia in a quite big or a big city, to have reached secondary education level and not to live with her partner. Like 25-34 years old women to have a previous child was reveled as an important associated factor.

Table 2. Bivariate analysis of the risk factors associated with induced abortion by age groups. Spain, 2008

	>=24 years old (n=42,790)					25-34 years old (n=51,242)					>=35 years old (n=20,295)				
	N	(%)	Chi square	OR	(95%IC)	n	(%)	Chi square	OR	(95%IC)	n	(%)	Chi square	OR	(95%IC)
Country of birth			p<0.001					p<0.001					p<0.001		
Spain	25695	(41.9)		ref		25432	(9.5)		ref		11835	(9.7)		ref	
Foreign country	17095	(36.0)		0.78	(0.76-0.79)	25810	(28.1)		3.74	(3.67-3.81)	8460	(28.2)		3.66	(3.54-3.77)
Autonomus Community of reisdence			p<0.001					p<0.001					p<0.001		
Catalunya	8821	44.4		ref		11900	18.1		ref		4575	16.8		ref	
Aragó	1176	41.2		0.88	(081-0.95)	1503	15.7		0.84	(0.79-0.89)	589	13.9		0.80	(0.73-0.88)
Astúries	594	40.6		0.86	(0.77-0.95)	773	13.6		0.71	(0.66-0.77)	306	11.5		0.64	(0.57-0.73)
Balears	1143	38.8		0.80	(0.74-0.86)	1610	17.2		0.94	(0.89-1.00)	614	17.4		1.04	(0.95-1.15)
Canàries	1756	33.3		0.63	(0.59-0.67)	2103	15.3		0.82	(0.78-0.86)	999	16.3		0.96	(0.89-1.04)
Cantàbria	234	30.4		0.55	(0.47-0.64)	330	8.3		0.41	(0.37-0.46)	162	9.1		0.49	(0.42-0.58)
Castilla- la Mancha	1480	31.1		0.57	(0.53-0.61)	1514	9.7		0.49	(0.46-0.52)	642	10.9		0.60	(0.55-0.66)
Castilla León	1427	37.5		0.75	(0.70-'.81)	1342	9.9		0.50	(0.47-0.53)	559	8.1		0.44	(0.40-0.48)
Andalusia	8690	36.6		0.72	(0.70-0.75)	8541	12.2		0.63	(0.61-0.65)	3289	13.0		0.74	(0.70-0.77)
Comunitat Valenciana	4359	36.9		0.73	(0.70-0.77)	5210	12.9		0.67	(0.65-0.70)	1958	12.8		0.73	(0.69-0.77)
Extremadura	652	32.1		0.59	(0.54-0.65)	494	7.0		0.34	(0.31-0.37)	234	8.3		0.45	(0.39-0.52)
Galícia	782	26.1		0.44	(0.41-0.48)	807	5.4		0.26	(0.24-0.28)	379	5.5		0.29	(0.26-0.32)
Madrid	7856	47.2		1.12	(1.08-1.17)	10149	18.2		1.01	(0.98-1.04)	4049	15.0		0.87	(0.84-0.92)
Múrcia	1972	37.9		0.77	(0.72-0.82)	2551	18.1		1.00	(0.96-1.05)	815	15.9		0.93	(0.86-1.01)
Navarra	267	27.8		0.48	(0.42-0.56)	331	7.2		0.35	(0.32-0.40)	164	7.8		0.42	(0.35-0.49)
País Basc	990	40.3		0.85	(0.78-0.92)	1383	10.0		0.50	(0.48-0.54)	610	8.1		0.43	(0.40-0.47)
La Rioja	204	29.8		0.53	(0.45-0.63)	272	11.5		0.59	(0.52-0.67)	119	12.0		0.67	(0.56-0.82)
Ceuta i Melilla	52	8.2		0.11	(0.08-0.15)	35	2.6		0.12	(0.09-0.17)	15	3.0		0.15	(0.09-0.25)
Size of place of residence			p<0.001					p<0.001					p<0.001		
<=10.000 inhab	5358	31.5		ref		5882	9.0		ref		2747	11.0		ref	

10.001-50.000 inhab	9907	34.7		1.15	(1.11-1.20)	11655	11.6		1.33	(1.29-1.37)	4739	12.4		1.15	(1.09-1.20)
>50.000 inhab	27102	42.9		1.63	(1.57-1.69)	33189	17.0		2.08	(2.02-2.14)	12550	14.2		1.34	(1.28-1.40)
Cohabitation			p<0.001					p<0.001					p<0.001		
Yes	13524	23.7		ref		29357	9.9		ref		14262	11.0		ref	
No	29532	55.9		4.07	(3.97-4.18)	21812	33.1		4.5	(4.41-4.60)	5974	27.0		3.01	(2.90-3.11)
Education level			p<0.001					p<0.001					p<0.001		
Primary or less	11796	18.9		ref		12280	9.9		ref		4668	11.2		ref	
Secondary	27952	73.8		12.07	(11.71-12.44)	30335	23.9		2.86	(2.80-2.93)	11514	24.0		2.49	(2.40-2.58)
Superior	3299	72.3		11.21	(10.47-12.00)	8560	8.8		.87	(0.85-0.90)	4062	7.1		0.60	(0.58-0.63)
Work status*			p<0.001					p<0.001					p<0.001		
Other^	29450	45.5		ref		45353	15.6		ref		17944	14.3		ref	
Student	10432	73.7		3.35	(3.21-3.48)	1080	32.9		2.64	(2.46-2.84)	2519	9.4		0.62	(0.60-0.65)
Housewife	3446	11.0		0.15	(0.14-0.15)	5171	7.4		0.43	(0.42-0.45)					
N. of previous children			p<0.001					p<0.001					p<0.001		
0	31904	39.0		ref		19593	9.8		ref		3240	6.4		ref	
1	8692	38.0		0.96	(0.93-0.99)	15666	12.8		1.35	(1.32-1.38)	5599	8.3		1.33	(1.27-1.39)
2 or +	2717	50.6		1.60	(1.52-1.69)	16331	40.4		6.23	(6.07-6.38)	11618	33.6		7.41	(7.10-7.23)

* >=35 year old group: categories housewife and student are joined ^ included unemployed, pensioner, emloyed and unknown category

Multivariate analysis

The multivariate models confirmed that factors influencing the decision to have an abortion varied by age (Table 3). Among younger women having an abortion was clearly related to education level, a women with a secondary education level had 11.5 more times to abort than women less educated (95% IC: 11.06-11.90). Another remarkable associated factor was the student status. Not to live with a partner, to live in a big city, in Murcia and to have 2 or more previous children also increased the likelihood of abortion among the youngest women. The two most clearly associated factors to abortion among 25-34 years old women were not to cohabit with the partner (OR= 5.8, 95% CI: 5.63-5.92) and to have 2 or more child (OR= 9.81, 95% CI: 9.50-10-14). Another factor linked to decide to terminate a pregnancy was the country of origin being foreign born woman who had 3.4 times more probability to abort (95%CI: 2.63-2.84).To have the student status, to have reached secondary education level and to live in Murcia in a quite big or big city were other related factors. Among >=35 years old women group, to be born in a foreign country, living in a big city and to have reached secondary education level were associated to abort. Women >=35 years old, like other two age groups, who had 2 or more children had more probability to decide to abort meanwhile not to live with a partner was a risk factor but less than other age groups. On the contrary, to be a student or housewife were a protector factor to decide to terminate the current pregnancy.

Table 3. Decision to have an abortion when women were pregnant, according to sociodemographic and reproductive factors by age groups, odds ratios and 95% confidence intervals (multivariate regression models)

	>=24 years old		25-34 years old		>=35 years old	
Characteristics	OR	95% CI	OR	95% CI	OR	95% CI
Country of Barth						
Spain	ref		ref		ref	
Foreign country	0.97	(0.93-1.00)	3.37	(3.29-3.46)	2.73	(2.63-2.84)
Autonomus Community of reisdence						
Catalunya	ref		ref		ref	
Aragó	0.58	(0.52-0.65)	0.80	(0.74-0.86)	0.84	(0.76-0.94)
Astúries	0.52	(0.44-0.60)	0.94	(0.86-1.03)	0.97	(0.84-1.11)
Balears	0.75	(0.67-0.83)	0.85	(0.79-0.91)	0.91	(0.82-1.02)
Canàries	0.36	(0.33-0.39)	0.74	(0.70-0.79)	0.96	(0.88-1.05)
Cantàbria	0.28	(0.23-0.35)	0.53	(0.46-0.60)	0.65	(0.54-0.78)
Castilla- la Mancha	0.68	(0.62-0.75)	0.69	(0.65-0.74)	0.70	(0.63-0.78)
Castilla León	0.75	(0.68-0.83)	0.66	(0.62-0.71)	0.63	(0.57-0.69)
Andalusia	0.63	(0.60-0.67)	0.79	(0.76-0.82)	0.80	(0.76-0.85)
Comunitat Valenciana	0.86	(0.81-0.92)	0.79	(0.76-0.83)	0.79	(0.74-0.85)
Extremadura	0.48	(0.43-0.55)	0.57	(0.51-0.63)	0.61	(0.52-0.71)
Galícia	0.24	(0.21-0.27)	0.32	(0.29-0.35)	0.37	(0.33-0.42)
Madrid	0.76	(0.72-0.81)	0.78	(0.75-0.80)	0.80	(0.76-0.86)
Múrcia	1.13	(1.04-1.23)	1.16	(1.10-1.23)	0.92	(0.84-1.01)
Navarra	0.36	(0.29-0.44)	0.42	(0.37-0.48)	0.47	(0.39-0.56)
País Basc	0.44	(0.40-0.50)	0.55	(0.52-0.59)	0.49	(0.45-0.55)

La Rioja	0.54	(0.43-0.68)	0.65	(0.56-0.76)	0.77	(0.62-0.96)
Ceuta i Melilla	0.11	(0.08-0.16)	0.12	(0.09-0.18)	0.13	(0.08-0.23)
Size of place of residence						
<=10.000 inhab	ref	(1.04-1.16)	ref		ref	
10.001-50.000 inhab	1.10	(1.23-1.36)	1.11	(1.07-1.16)	1.00	(0.95-1-06)
>50.000 inhab	1.29	(0.93-1.00)	1.47	(1.42-1.52)	1.14	(1.08-1.20)
Cohabitation						
Yes	ref		ref		ref	
No	4.18	(4.03-4.34)	5.77	(5.63-5.92)	3.54	(3.40-3.70)
Education level						
Primary or less	ref		ref		ref	
Secondary	11.48	(11.06-11.90)	4.35	(4.23-4.48)	3.56	(3.41-3.73)
Superior	8.99	(8.30-9.73)	1.78	(1.72-1.85)	1.05	(1.00-1.11)
Work status*						
Other^	ref		ref		ref	
Student	2.11	(2.00-2.22)	2.41	(2.21-2.63)	0.45	(0.42-0.47)
Housewife	0.19	(0.18-0.20)	0.32	(0.31-0.33)		
N. of previous children						
0	ref		ref		ref	
1	2.75	(2.63-2.87)	1.72	(1.67-1.76)	1.58	(1.51-1.66)
2 or +	7.54	(6.98-8.13)	9.81	(9.50-10.14)	9.04	(8.61-9.49)

* >=35 year old group: categories housewife and student are joined; ^ included unemployed, pensioner, employed and unknown .

Conclusions

The impact of sociodemographic, reproductive characteristics and factors related to the relationship with a partner on decision-making process to abortion varies according to the different age group and in particular the magnitude of risk of some women characteristics between age groups[5].

Reproductive history characteristics appears as an important factor related to decide whether or not to continue a pregnancy[4,7,11] as well as factors related to the relationship[4,6,8,10,11], both factors are especially important among women 25 years old or older.

Among younger women the factor more clearly linked to terminate a pregnancy was the education level suggesting that abortion is mainly influenced by a wish or importance to continue their studies[4,5,7]. In this stage of life cycle, IA would let women postpone maternity. Meanwhile, among 25-34 years old and older women there is a strong influence of reproductive characteristics when considering number of previous children. Having two or more children has the major impact on abortion decision among 25-34 years old women. Another important factor in last two groups is cohabitation status being women living alone who decide most frequently to have an abortion. This last factor suggests the importance of share the responsibility to have a child with other person.

In this study on associated factors on abortion, only a limited number of factors could been investigated insufficiently covering the whole situation of women at the time of pregnancy. It suggests that further research should be done from qualitative approach in order to know more about how theses factors interact and how the decision-making process is made (i.e time required for making a decision, difficulties in making the decision, barriers to have a child, agreement with the partner regarding the decision, influence from others on her decision, and the real wish to have a child.

Eventually, studying associated factors on abortion could be a challenge to identify unmet need on family planning and other lack of personal or social resources that women have to help providers to face up future ambivalent or unintended pregnancies.

References

(1) Equipo Daphne. V Encuesta Bayer Schering Pharma sobre Anticoncepción en España. Madrid: Bayer Schering Pharma, 2007

(2) Ministerio de Sanidad y Política Social. Registro de Interrupciones voluntarias del Embarazo . Madrid. 2008 (microdatos)

(3) Bankole A., Singh S. & Haas, T. Reason by women have induced abortion: evidence for 27 countries". International Family Planning Perspectives, 1998 23 (3).

(4) Finer L, Frohwirth L, Dauphinee L; Singh S, Moore A. Reasons why US women have abortions: Quantitative and qualitative perspectivas. Persepctives on sexual and Reproductive Health; 2005, 3(37):110-118.

(5) Sihvo, S., Bajos, N., Ducot, B., Kaminski, M. and the COCON Group. 2003. "Women's life cycle and abortion decision in unintended pregnancies." Journal of Epidemiology and Community Health Care; 57(8): 601-605.

(6) Torres A, Darroch, J Why do women have abortions? Family planning perspectivas. Jul-Ago 1998, 20(4):169-176

(7) Kero A, Högberg U, Jacobsson L. Lalos A. Legal abortion: a painful necessity, Social Science and Medicine; 2001, 53(11): 1481-1490.

(8) Skjeldestad FE. When pregnant—Why induced abortion? Scand J Soc Med, 1994;22:68–73.

(9) Törnbom, M., Ingelhammar, E., Lilja, H., Svanberg, B. and A. Möller. Decision-making about unwanted pregnancy. Acta Obstetricia et Gynecologica Scandinavica; 1999, 78(7): 636-41.

(10) Larsson, M., Aneblom, G., Odlind, V. and T. Tyden. Reasons for Pregnancy Termination, Contraceptive Habits and Contraceptive Failure Among Swedish Women Requesting an Early Pregnancy Termination. Acta Obstetricia et Gynecologica Scandinavica; 2002, 81(1): 64-71.

(11) Barrett, G., Peacock, J. and C.R. Victor. Are Women who Have Abortions Different From Those who Do not? A Secondary Analysis of the 1990 National Survey of Sexual Attitudes and Lifestyles. Public Health; 1998, 112(3):157-63.

(12) Font-Ribera L, Pérez G, Salvador J, Borrel C. Socioeconomic inequalities in unintended pregnancy and abortion decision. Journal of Urban Health: Bulletin of the New York Academy Medicine; 2007;1(85): 125-135

(13) Delgado M, Barrios L. Determinantes sociales de la interrupción del embarazo en España. 236. Madrid: Centro de Investigaciones Científicas, 2007