Comparative analysis of abortion hospitalizations in the public health sector in Mexico City, before and after the legislative change

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INTRODUCTION:

At the end of April 2007, a new law was approved in Mexico City that allowed to perform a legal abortion in the health sector at simple women´s request, up to the 12 weeks of gestational age. The law came immediately into action and women soon presented at public hospitals of the Mexico City Minister of Health (MOH) to receive a legal termination of an unwanted pregnancy (ILE by the Spanish: Interrupción Legal eel Embarazo).

It is well documented that, under criminalization of abortion, women undergo unsafe and clandestine procedures often requesting hospitalization to treat the high rate of complications. Health systems usually register these types of complications under the International Classification of Disease (ICD-10, CIE -10 in Spanish) that includes all diagnosis encompassing miscarriages and abortions. In Mexico, all cases that require hospital care, for any causes, are registered in the Automatized System of Hospital Care (Sistema Automatizado de Egresos Hospitalarios: SAEH in Spanish).

OBJECTIVE:

We decided to analyze the official MOH registrations system to study the impact of the new law on the demand of legal services and indirectly, how it would be affecting the demand for other types of abortion care. Additionally, we wanted to analyze the quality of care that was being provided to women in legal services and in incomplete, spontaneous or unclassified cases, possibly reflecting clandestine and unsafe procedures. For this purpose, we chose to analyze the type of procedures used, the rate of complications registered and additionally, the percentage of women that would leave the hospital with a contraceptive method.

METHODS:

The current version of the World Health Organization's International Classification of Diseases (ICD-10). adopted by Mexico in 1998, was used to identify abortion-related cases. They were defined as pregnancies ending with all abortive outcomes, with the following ICD-10 codes: O00 - ectopic pregnancy; O01 - hydatidiform mole; O02 - other abnormal products of conception; O03 – spontaneous abortion; O04 - medical abortion, which includes legal and therapeutic termination of pregnancy; O05 - other abortion; O06 - unspecified abortion; O07 - failed attempted abortion; and O08 - complications

following abortion. No attempts were made in this analysis to separate miscarriages from induced abortion.

All ICD-10 codes O00 to O08 hospitalizations in Mexico City MOH hospitals were included, using official registration system in the SAEH, during the period January- April 2007, immediately before the change of the law, and subsequently in January- April 2008 and January-April 2009, one and two years after the change in the law. During 2008 and 2009, the analysis included a new diagnostic code (Z30.3), that has been approved to register only ILEs, allowing the local MOH to identify and monitor the legal procedures and the trends in the demand in the public health sector.

Finally, in order to estimate the relative demand for legal abortion services *vs*. overall abortion care, we decided to take into account the increasing number of IlEs carried out on an out-patient base, according to the recent MOH clinical guidelines. These procedures do not generate any record in the SAEH system, but the number and the principal characteristics are collected under a different format (non-SAEH ILE format).

To calculate the overall number of complicated cases, we included in the analysis certain subcategories within ICD codes O03-O07 (the following fourth decimal subcategories: 0, 1, 2, 3, 5, 6, 7, and 8) as well as the whole of the O08 category.

To analyze the quality of care, we additionally registered the code for technical procedures (69.0 for Dilatation and Curettage: D&C, and 69.5 for Manual Vacuum Aspiration: MVA); finally, all women registered as leaving the hospital with a contraceptive method (**APEO** according to the Spanish: Anticoncepción Post-Evento-Obstétrico) were included in the analysis.

RESULTS:

In January-April 2007, immediately before the change in the law, 2,547 hospitalizations due to all types of abortion (ICD-10 codes O00 to O08) were registered in MOH Mexico City public hospitals. The mean age of women attended was 25 years. During this period, nearly 91% of procedures were carried out using D&C, and only in 4% of cases MVA was used. The overall complication rate, according to the above mentioned criteria, was 30%. Only 4.2% of all women attended for abortion care received a contraceptive method before leaving the hospital.

After the change of the law, the two time periods analyzed (8 and 20 months after the depenalization respectively) showed the following results (Table 1).

During January-April 2008, 3,106 hospitalizations due to abortion were registered; additionally, 1,309 legal abortions were carried out in hospitals. Mean age was 25 and 26 years of age in the two groups. D&C was used in 90% of the first group, while MVA was used in 56% of legal abortions. Registered complications were 32% and 0.4% respectively in the two groups. Acceptance of a contraceptive method immediately after the procedures (APEO) was 17% among women hospitalized for all abortions and 52% among women who received a legal procedure.

Finally, in the last period analyzed, January-April 2009, 2,929 hospitalizations due to abortion were registered, with only 884 ILEs. Mean age was 25 in both groups. D&C was used in 95% of the first group, while MVA was used in 74.7% of legal abortions. Registered complications were 32.73% and 0.1% respectively in the two groups

TABLE 1: SUMMARY of RESULTS

Variable	2007	2008		2009	
	Abortions	Abortions	ILE *	Abortions	ILE *
Cases (N)	2,547	3,103	1,389	2,929	884
Mean Age	25	25	26	25	25
D&C (%)	90.9	90.3	56.3	90.0	25.1
MVA (%)	4.0	4.2	56.7	4.4	74.7
Complications (%)	33.1	32.1	0.4	32.7	0.1
APEO (%)	4.0	17.0	52.0	18.6	71.9

Note: * ONLY hospitalized women
Source: SSDF/DIS/SAEH

We further decided to analyze the subcategories of abortion by ICD in a longer time period, trying to identify any trend between pathological events (codes O00 and O01: ectopic and mola) *vs.* other products of conception, miscarriage, and unspecified abortions (codes O02, 03 and 06), where most self-induced, clandestine and relatively unsafe procedures could fall. For 2009, a yearly projection was estimated, dividing by 4 the observed numbers during January-April (monthly mean) and multiplying it by 12. We can observe indeed that there was no descend over time in the diagnosis of these last categories, that group together 95% or more of all cases in 2005, 2006 and 2008; only in 2009, a slight descend can be observed, with 86% of all ICD cases (Table 2). Most complicated cases are coded under ICD O08 cases, with an apparent tendency to descend in the last two years.

Table 2: CIE-10 subgroups

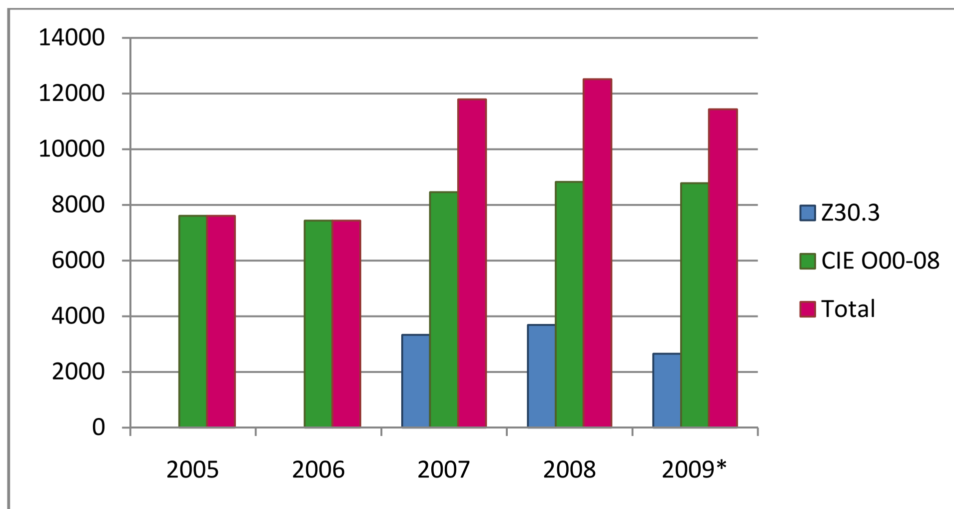
CIE	2005	2006	2007	2008	2009*
pathol	249	214	275	219	363
O02,03,06	7282	7118	7923	8395	7581
O04,05,07	71	90	245	203	843
O08	11	15	18	7	0
TOTAL	**7613**	**7437**	**8461**	**8824**	**8787**

***Yearly projections**

We also decided to analyze the total number of abortion procedures per year (all ICD-codes O00 to O08, PLUS the legal procedures, recorded as Z30.3) since 2005, and estimating yearly projections for 2009 according to the same methodology above mentioned.

According to SAEH, during 2005, 7,613 women had been hospitalized for any type of abortion care (ICD O00 to O08); 7,437 during 2006. Since the implementation of the law, in 2007, 8,461 women had been hospitalized for abortion plus 3,337 for ILEs (total of 11,798 cases); in 2008, the numbers were respectively 8,824 plus 3,692 ILEs (total cases: 12,516). Finally, by 2009, it was estimated that 8,787 women would be hospitalized for abortion plus 2,652 for ILEs, with a total annual caseload of 11,439 women attended for any abortion, either spontaneous, unspecified or legally induced (Figure 1).

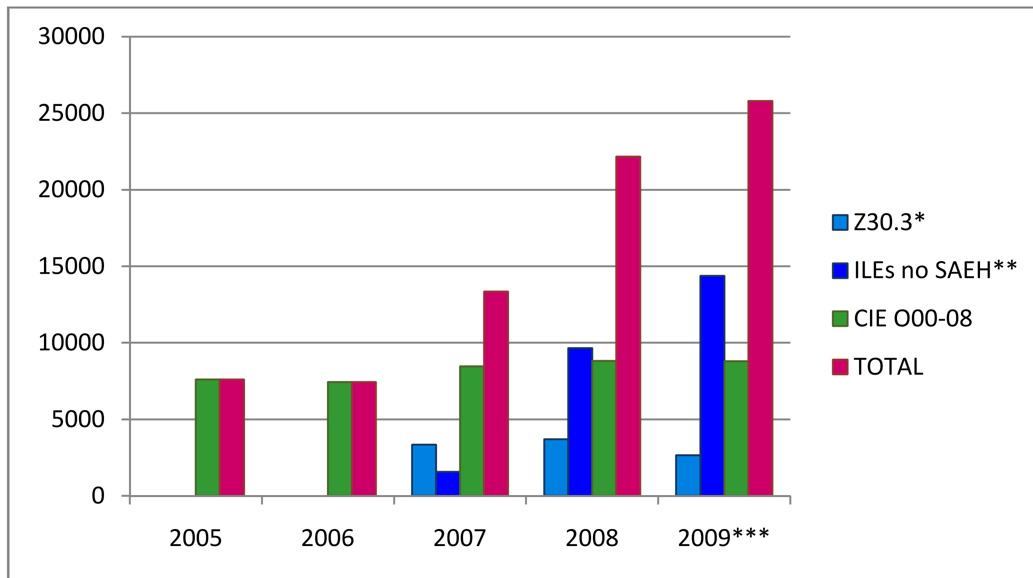
Figure 1: Yearly hospitalizations for abortions cases and legal procedures



* Proyected 12 months

According to the new policy adopted by the local MOH, we were aware that an increasing number of legal procedures were carried out on an out-patient base, thus they were NOT generating an official registry in the SAEH system. We therefore decided to include in the final analysis, the whole number of legal procedures (all Z30.3, both SAEH and non-SAEH). Under this final analysis, we can observe that the number of ILEs has increased significantly, as well as the total number of cases that have warranted medical care for abortion in its different aspects, either incomplete, spontaneous or legally induced (Figure 2).

Figure 2: Yearly caseload for abortions cases and legal procedures, with and without hospitalization



*SAHE; **out-patient only; *** yearly projection

The total caseload of women attended for this cause went from 7,613 women hospitalized for abortion in 2005 to more than 25,000 women estimated to be attended overall in 2009, thus divided: 8,787 hospitalized for abortion, 2,652 hospitalized for ILEs and 14,367 attended for IIE on a outpatient base.

DISCUSSION:

These preliminary data show the importance of analyzing the quality and quantity of abortion services. We describe the characteristic of hospitalizations and medical care due to abortion in Mexico City public hospitals, in this phase of transition to legality, in order to understand women's demand, behavior and needs, as well as to estimate the ability and needs of the health system to respond to them.

It is mentioned that, in most countries when the abortion criminal law changes, legal procedures increase and unsafe, clandestine abortions decrease. However, the transition to legality may take time, and a high number of unsafe abortions may coexist with an increasing number of legal procedures. The pace of transition may depend on the real demand for induced abortion (unknown in an illegal setting), the offer of safe, affordable and quality services, and women´s knowledge of the law and empowerment to recur to public health system to demand the services.

Within two years since the legalization of abortion under women´s request, in Mexico City, we are still observing a high demand for hospital care due to complications of incomplete abortion, often due to unsafely induced procedures, coupled with an increasing demand for legal terminations of pregnancy.

The quality of care offered by the same health system (Mexico City MOH public hospitals) seems to differ substantially in terms of technical procedures (the old D&C vs. the golden standard of care: MVA), rates of complications and uptakes of contraceptive methods before leaving the hospital: all these indicators perform significantly better for legal termination of pregnancy (Z30.3 code) than for overall abortion care (all ICD O0 codes).

This may be due to the impact of the training activities undertaken by the MOH and a series of collaborating agency, among them Ipas Mexico, since the change of the law. However, the intensive training has reached mainly those providers dedicated to attend the ILE, while most providers, who declared themselves conscientious objectors, have not accepted to receive clinical training in MVA, contraception, pain management nor integral care for women suffering for an abortion. These results stress the importance that the whole team, either in hospitals as well as in health centers where women are attended on an outpatient base, must participate and be trained in order to improve the quality of care of these services, either for legal procedure or for spontaneous or incomplete events.

These results may be especially helpful for planning purposes, to estimate the overall needs for services in a changing situation, where more and more women start demanding public health care for a legal termination of an unwanted pregnancy, while a significant proportion of them still recur to self-induced, unsafe procedures that end up in hospitals for complication treatment.

In this study, the high number of such cases still observed two years after the change in the law, should be seen as a positive indicator of increasing access to services even for those women who carried out unsafe or non-legal procedures, and feel now more confident to demand attention for terminating the process or treating a complication. However, as the quality and capacity of public (and private) health service increases, it should be expected that such numbers go slowly down, and all women requiring a legal procedure have fast access to a high quality, accessible and affordable service, according to their right to health, reproductive choice and human dignity.