Incidence of surrogacy in the USA and Israel and implications on women's health: a quantitative comparison

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Incidence of Surrogacy in the USA and Israel and Implications on Women's Health

A Quantitative Comparison

ABSTRACT

Purpose. Gestational surrogacy (GS) has been researched in multiple qualitative studies. In sharp contrast, quantitative aspects of the practice are conspicuously understudied. The present article aims to assess and compare the incidence of GS in the USA and Israel, two industrialized countries that have maintained active, formally regulated surrogacy practice, for over two decades.
Method. The article is a secondary analysis of official GS figures published by the USA and Israel. Each dataset is analyzed vis-à-vis the respective country's population, adult population and number of deliveries and infants born, so as to devise local Incidence Scores. These scores are the basis for an inter-country comparison.
Results. The incidence of GS is rising in both countries. Though USA surrogates are contracted by both local and international, heterosexual and gay, partnered and single intended parents, the relative incidence of GS is lower in the USA than in Israel, at a ratio of 2:3, even though in Israel only local heterosexual couples and single women may contract a gestational surrogate.
Conclusion. GS emerges as reflective of its social surrounding, with the ratios between the countries' GS incidence resembling the ratios between their respective fertility rates. The paper ends with considering two risks facing gestational surrogates: the risk of not conceiving and not being paid, which is the outcome of most GS cycles, and the risk of carrying a multiple pregnancy, which is extremely prevalent in GS pregnancies, and sustaining the short- and long-term health consequences that are likely to accompany it.

KEY WORDS
Gestational surrogacy, incidence, live birth, multiple birth, USA, Israel

INTRODUCTION

Over the past two decades, gestational surrogacy has gained acceptance and has proliferated in growing social circles. Men and women from industrialized and developing countries, partnered and singles, heterosexual, homosexual and others are engaged in commercial surrogacy as gestational surrogates, intended parents, travel agents, brokers and clinicians. Still, very little is known about the scope of the practice and its incidence. In this article, we aim to provide a preliminary comparative assessment of the practice, as it takes place in the USA and Israel.

Social scientists have looked at a broad range of aspects related to GS, including legal and ethical aspects [1], [2] and [3]; the concept of reproductive justice as it is and as it should be enacted in various domains of surrogacy [4]; legislation-guided movements of people from one surrogacy hub to another in search of cross border reproductive assistance [3], [5], [6]. Gestational surrogacy was also discussed as a vantage point for the exploration of broader phenomena like the commodification [7]; fragmentation and globalization of reproduction [8], [9], [10] in the age of late capitalism [11]; and racialized aspects of the global order [12], [13], [14]. Even more generally, surrogacy was discussed as an instance of various sorts of border crossing [15], [16], [17]. LGBTQ use of surrogacy was analyzed as a meeting point of queer reproductions, stratified reproduction and reproductive justice [18]. On a different scale, surrogacy was applied as a prism for the study of the situated significance of normal pregnancy in the societies in which it was practised [19], [20].

Studies at a micro-social level have looked at the embodied experience of surrogates [11], [21] and the implications on people surrounding them [22], as well as on prevailing kinship perceptions [23]. Surrogates' negotiation of their roles [22] and their lived experiences were thoroughly considered within the context of specific local surrogacy industries, e.g., in India [14], [9], in the USA [24], [25] and in Israel [21]. The significance of payment has also been elucidated [22]. Some feminist scholars expressed highly critical views of GS as exploitative and have tried to advance a ban on commercial surrogacy [26], [27], [28].

In edited collections [1], [17], and review articles, e.g. [29], as well as in books and journal papers, like the ones referenced here, these and other researchers have looked across various geographical settings, spanning from Thailand and Laos [5], India [14], [9], [30], [31], [4], [32], [16] and Turkey [33], to the UK [34], the USA [18], [35], [25], [36]–[38], Germany, Switzerland [39], and Israel [19], [40].

Against this scholarly plethora, the scarcity of quantitative studies is glaring. In this paper, we hope to supplement the qualitative understandings by a quantitative analysis of the scope of commercial surrogacy in two practice-intensive settings, Israel and the USA. The analysis is based on raw data published by the official authorities in each country. The decision to compare these particular countries, despite their evidently different sizes, was guided by several considerations: First, both countries are among the few industrialized countries that allow and formally regulate commercial surrogacy. Second, the two have maintained GS practice for over 20 years. Third, in both the USA and Israel, surrogacy is a highly active field, as detailed in the following sections. At the same time, each of the countries is situated differently in the global surrogacy landscape: Israel is on the 'outsourcing' side, with numerous Israelis travelling abroad for GS, whereas the US is on the provider's side, serving a substantial international clientele of

intended parents (IP) of various citizenships, personal statuses and sexual orientations. Our quantitative assessment seeks to situate the relative magnitude of each of the local GS practices within its context, and then probe possible implications on local women's health and wellbeing.

Background: The Research Fields

Israel is a highly familial society. Though comparable to OECD countries in terms of life expectancy, women's education and labour market participation, more Israelis marry, they do so at an earlier age, have roughly twice as many children and divorce less frequently than their foreign counterparts [41]. One aspect of this familial profile is an unparalleled state funding of fertility treatments including In Vitro Fertilization (IVF) and Intracytoplasmic Sperm Injection (ICSI) that are provided nearly free of charge, to every Israeli woman, without screening, until the age of 45 and the birth of two live children with her current partner. In the sphere of surrogacy, Israel was the world's first country to legislate a dedicated primary law (in 1996) for GS regulation. Since then, a state committee screens applicants seeking to become either gestational surrogates or IP. Eligibility to domestic surrogacy is restricted to heterosexual couples, with single women gaining access in 2018. The procedure is privately funded and amounts to $50,000-60,000. Gay men, who wish to found families, travel abroad for cross border ova donations and GS. In recent years, a growing number of Israeli heterosexual couples, also prefer to conduct surrogacy abroad, primarily, due to the faster pace of the process and the distance from the surrogate, which some IP consider an advantage [42]. Countries of destination vary according to changes in legislation, currently concentrating in Georgia, Albania and the USA [43].

In the **USA**, the legal status of surrogacy varies greatly from one state to another. Some states apply explicitly friendly regulations (e.g., California, Connecticut, Massachusetts) and treat GS contracts as enforceable, whereas others (e.g., New York, Michigan, Utah) restrict the practice and under some circumstances, may criminalize GS contracts [44]. American men and women also travel abroad for surrogacy, mostly, in order to moderate the high expenditure that the practice entails in the USA. Like their Israeli counterparts, USA resident IP have also faced increasingly restrictive policies in numerous developing countries that have banned the procedure to foreigners or gay IP. For many of these potential IP, the USA has become the more realistic and accessible site for surrogacy assisted family formation. At the same time, the USA has been an international hub of commercial surrogacy, serving a wide international range of IP. This international standing has become more salient in the past decade [37], possibly due to the growing restrictions on foreign and gay surrogacy in South Asian countries.

METHODS

The present article is a secondary analysis of official U.S. and Israeli GS data. Extrapolating from the raw figures, we devised a series of Incidence Scores for each of the settings.

Israel. Ministry of Health data was published by the *Knesseth* (Parliament) Centre for Research and Information on October 2018 [42]. The document provides comprehensive figures regarding surrogacy practice endorsed by Israelis, both domestically and abroad. The data on domestic surrogacy is based on birth reports and monitors deliveries and live-born infants. The number of cross border surrogacy (CBS) deliveries is approximated by applications for DNA testing, a state

prerequisite for the admission of CBS infants into Israel. This dataset on CBS does not include the number of infants born.

The USA. For the USA, we rely on two articles reporting CDC surrogacy figures, primarily for the years 2009-2013 and 2010-2014 [36]–[38]. These figures provide a comprehensive depiction of the USA GS scene, counting all GS cycles in which at least one embryo was transferred. USA citizens who travel abroad for the procedure are not included. Much as we searched, we did not find any estimates of the scope of CBS carried out by USA resident IP.

The **comparison** looks at the five years for which we have figures for both countries: 2010-2014. It is based on several Incidence Scores that measure surrogacy figures vis-à-vis relevant populations. Given the difference in age distribution of the general population in the two countries, which represents Israel's higher fertility rates, we also calculated, in addition to Populations Scores, also Adult Population Scores, which weigh the number of GS deliveries and infants vis-à-vis each country's adult population. As our focus in this study is primarily on the local women who serve as gestational surrogates, and as we have no data regarding cross border GS deliveries and Infants born to USA resident IP, we focus our inquiry on domestic GS in both settings. In light of the scope of the scrutinized phenomenon and the relative scarcity of GS as an epidemiological phenomenon, our scores are calculated per million population, rather than the customary figure per thousand.

RESULTS

Israel. Between the years 1998 and 2017, 823 infants were born in Israel following 666 domestic GS births. Starting from 11 applications submitted to the National Surrogacy Committee in the year 1996, when the Embryo Carrying Agreements Law was ratified, the annual average has quintupled from 21 applications in the first six years (1996-2001) to 107 in recent years (2012-2017; authors' calculations from Figure 1 [42]). The average number of deliveries for the scrutinized period (2010-2014), was 52 a year (see Table 1 authors' calculations from Table 1 [42]). Directing our look at the number of infants born in Israel following GS, we learn that 64 infants were born on average every year, following GS in Israel and that on average the Baby / Delivery ratio in domestic surrogacy deliveries amounted to 1.24. Figures provided by Israel's Central Bureau of Statistics (CBS) reveal an even steeper increase, from an annual average of 27 infants in 2005-2011, to 221 in recent years (2012-2017; authors' calculations from Tables 2 and 3 [42]).

Table 1: GS Deliveries and Infants Born to Israelis in Israel and Abroad (2010-2014)
from Tables 1, 2 and 3 [42]

	Domestic Surrogacy			**Cross Border Surrogacy Performed by Israeli IP**	
Year	GS deliveries in Israel	GS infants born in Israel	Infant / Delivery	CBS Deliveries	Assessed CBS infants*
2010	46	56	1.22	49	61
2011	49	68	1.39	93	115
2012	41	49	1.20	128	159

2013	58	72	1.24	169	210
2014	65	76	1.17	232	288
Total	259	321		671	833
	All Deliveries (N): 930			All Infants: 1,154	
Annual Average	52[1]	64	1.24	134	167
	All Deliveries (An. Av.): 186			All Infants (An. Av.): 231	
Av. Ann. Growth	7.15%			36.48%	

*applying the average Israeli domestic Baby / Delivery ratio of 1.24, which is, according to informal assessment of local gay surrogacy parents, a conservative assumption.

The table thus shows that the bulk of GS deliveries, in recent years, take place abroad. It also captures the substantial proportion of multiple births. In order to gain a relative estimate of these figures, we weighed them against the local population. As elucidated above, our focus is on domestic GS in both settings. Table 2 presents the emerging picture:

Table 2: Israeli GS Delivery and Infant Scores (2010-2014)
Authors' calculations

IL Score	Score Description	Score Value
Domestic GS Delivery Score	An. Av. Domestic IL GS *Deliveries* / M IL Pop.	52 / 7.9[2] = 6.58
Domestic GS Infants Score	An. Av. GS *Infants* born in Il / M IL Pop.	64 / 7.9 = 8.1
Domestic GS Delivery Adult Score	An. Av. Domestic IL GS *Deliveries* / M IL *Adult* Pop.	52 / 5.3[3] = 9.81
Domestic GS Infants Adult Score	An. Av. GS *Infants* born in IL / M IL *Adult* Pop.	64 / 5.3 = 12.08

In order to assess the significance of the resulting scores, we will juxtapose them with comparable US figures, which we now turn to calculate.

The USA

Between the years 1999 and 2013, 30,927 gestational carrier cycles (GCC) were carried out in the USA, resulting in the birth of 18,400 infants in 13,380 deliveries, i.e., 1.38 infants per delivery. Most GS infants (53.4%; n=9,819) were born in multiple birth [36]. Both the absolute number and the percentage of GCC out of all ART cycles rose significantly during this period, from 1% (n=727) in 1999 to 2.5% (n=3,432) in 2013 [36]. Between the years 2004 and 2008, the number of infants born to GS in the US almost doubled, rising from 738 to nearly 1,400 [24]. In the subsequent years, between 2010 and 2014, 16,148 GCC were performed in the USA, resulting in the birth of 10,009 live infants [38]. Given 30.7% (n = 2,341) of multiple live births

[1] Rounded figures are used for clarity

[2] [50]. The exact figure for July 2012, the middle point, is 7,916,600

[3] [51] The exact figure for age 18 and over, July 2013, the middle point, is 5,316,298

in this period [38], the number of deliveries amounts to 7,645[4], i.e., 47.34% of all GCC. Of these cycles, 17.68 % (N=2,852) were taken up by foreign (non-USA) residents [37] leaving 13,296 GCC carried out by USA resident IP. These figures are summarized in Table 3.

Table 3: USA GCC Figures (2010-2014)
from [38]

	Total		**USA resident IP**		**Foreign (non-USA) resident IP**	
Year 2010-2014	**N**	**An. Average**	**N**	**An. Average**	**N**	**Ann. Average**
GCC	16,148	3,230	13,296	2,659	2,852[5]	570
Deliveries	7,645	1,529	6,292	1,258	1,353	271
Infants	10,009	2,002	8,237	1,647	1,772	354

Before turning to the score calculation, we should remind, once again, that the following calculations apply only to those GS performed in the USA and as such, is but a partial estimation of GS cycles conducted by US citizens. Whereas the percentage of non-USA resident IP that are included in the data is known and can be analysed, the scope of CBS conducted by USA resident IP is unknown. Table 4 presents the proportion of deliveries and infants vis-à-vis the general American population and the American adult population.

Table 4: USA GS Delivery and Infant Scores (2010-2014)
Authors' calculations

USA Score (Total: USA and non-USA resident IP)	**Score Description**	**Score Value**
Domestic GS Delivery Score	An. Av. Total Domestic USA GS *Deliveries* / M USA Pop.	1,529 / 314[6] = 4.87
Domestic GS Infants Score	An. Av. Total GS *Infants* born in the USA / M USA Pop.	2,002 / 314 = 6.38
Domestic GS Delivery Adult Score	An. Av. Total Domestic USA GS *Deliveries* / M USA *Adult* Pop.	1,529 / 239[7] = 6.40
Domestic GS Infants Adult Score	An. Av. Total GS *Infants* born in the USA / M USA *Adult* Pop.	2,002 / 239 = 8.38

Rather similar to the Israeli field, the US figures disclose a high rate of multiple birth, that has indeed been somewhat reduced in recent years but remains at the relatively high level of 1.38

[4] Number of deliveries calculation: 2,341:0.307 = 7,645

	deliveries	infants
Singletons	7,645 - 2,341 = 5,313 →	5,313
Twins +	2,341 x 2 →	4,682+
Total		9,995+ → possibly 14 triplets: 9,995+ 14 = 10,009).

[5] [38]. Table 1, column 7.
[6] [52] The exact figure is 313,914,040
[7] [52] The exact figure is 238, 574,670

baby per delivery. We now move on to compare the two datasets in order to gain an insight into the relative incidence of local GS practice vs the surrounding population.

Comparative Assessment: Gestational Surrogacy in Israel and the USA

We approach our comparison by looking at the rate of multiple births in the local GS practice of each country during the scrutinized years: 2010-2014. In Israel's domestic practice, multiple births comprised 24% [(321-259) / 259] of GS deliveries (assuming that multiple births consist only of twins), lower than the US respective figure of 30.7%[8]. In line with these figures, Israel's average of Baby / Delivery stood on 1.24 vs 1.38 in the USA. What is the meaning of these figures in their nationwide contexts? What are the implications for local women who engage in GS in the USA and Israel? Since the Israeli data does not monitor GS cycles but only deliveries and newborn infants, our comparison assesses these variables. Table 5 summarizes the resulting comparative scores.

Table 5: GS in the USA vs. Israel: Comparative Deliveries and Infant Scores*

		USA	Israel	Israel / USA
	Proportion of Surrogacy			
1.	Percentage of All IP GS Deliveries / All Domestic Deliveries	1,529 / 3,952,841[9]= 0.39‰	52 / 163,725[10] = 0.32‰	0.82
2.	Percentage of Local IP GS Deliveries (USA resident IP / All Domestic Deliveries	1,258 / 3,952,841[11] = 0.318252‰	52 / 163,725[12] = 0.317606‰	0.997
	Score (Score Description) All Domestic GS: USA and non-USA resident IP			
3.	Domestic GS Infants Score (An. Av. GS *Infants* born / M Pop.)	2,002 / 314 = 6.38	64 / 7.9 = 8.1	1.27
4.	Domestic GS Delivery Score (An. Av. Domestic GS *Deliveries* / M Pop.)	1,529 / 314 = 4.87	52 / 7.9 = 6.58	1.35
5.	Domestic GS Infants Adult Score (An. Av. GS *Infants* born / M *Adult* Pop.)	2,002 / 239 = 8.38	64 / 5.3 = 12.08	1.44
6.	Domestic GS Delivery Adult Score (An. Av. Domestic GS *Deliveries* / M *Adult* Pop.)	1,529 / 239 = 6.40	52 / 5.3 = 9.81	1.53
	Score (Score Description) USA resident IP vs. Israeli IP			

[8] The multiple birth percentage declines in the course of the years from 53.4% [37] in 1999-2013 to 30.7% [38] in 2010-2014.

[9] In [45]

[10] 2012 figures: 170,940 (Live birth) + 585 (still births) – 7,800 (multiple births) = 163,725 https://www.cbs.gov.il/he/publications/DocLib/2018/3.%20ShnatonVitalStatistics/st03_01.pdf and [46].

[11] In [45]

[12] 2012 figures: 170,940 (Live birth) + 585 (still births) – 7,800 (multiple births) = 163,725 https://www.cbs.gov.il/he/publications/DocLib/2018/3.%20ShnatonVitalStatistics/st03_01.pdf and [46].

7.	Domestic Am. IP GS Infants Score (An. Av. GS *Infants* born to USA resident IP / M Pop.)	1,647 / 314 = 5.25	64 / 7.9 = 8.1	1.54
8.	Domestic Am. IP GS Delivery Score (An. Av. Domestic GS *Deliveries* to USA resident IP/M Pop.)	1,258 / 314 = 4.00	52 / 7.9 = 6.58	1.64
9.	Domestic Am. IP GS Infants Adult Score (An. Av. GS *Infants* born to USA resident IP / M *Adult* Pop.)	1,647 / 239 = 6.89	64 / 5.3 = 12.08	1.75
10.	Domestic Am. IP GS Delivery Adult Score (An. Av. Domestic GS *Deliveries* to USA resident IP / M *Adult* Pop.)	1,258 / 239 = 5.26	52 / 5.3 = 9.81	1.86
	Fertility rates			
11.	Birth rate (births per 1,000 population)	12.6[13] per 1,000 population	21.6[14] per 1,000 population	1.714
12.	General fertility rate (number of live births per 1,000 women of reproductive age)	53.6[15] per 1,000 women of reproductive age	91.4[16] per 1,000 women of reproductive age	1.705
13.	Total fertility rate (total number of children born or likely to be born to a woman in her life time if she were subject to the prevailing rate of age-specific fertility in the population)	1,880.5[17]per 1,000 women	3,050[18] per 1,000 women	1.621

*Extrapolated from tables 1-4 above and cited sources.

The table's first row demonstrates that in the US, GS deliveries comprised 0.39‰ of all local deliveries during the scrutinized period, whereas in Israel, such deliveries comprised, in the same period, a smaller fraction: 0.32‰ all local births. This may suggest that Israelis opt for surrogacy as the pathway to family formation less frequently than their American counterparts. Practically all of this difference vanishes, however, if we set aside foreign (non-American) IP. If we look at USA resident IP, both heterosexual and gay, as compared to Israeli IP (row 2), then the proportion of GS deliveries as part of all domestic deliveries is 0.997, i.e. practically identical. At first glance, this similarity may appear to represent equal respective use of GS by local IP. Aspiring for a finer understanding, we delve deeper into the figures. The equal ratio shows that in both the USA and Israel the use of surrogacy as reproductive method is alike. However, we need to bear in mind that Israeli IP of domestic GS are only heterosexual couples and single women, whereas in the USA, persons of all sexual orientations are allowed to contract a gestational surrogate. The resulting similarity therefore most likely encapsulates higher overall use of GS by Israeli IP.

A supplementary approach to evaluate the relative weight of GS on women in each country, is to weigh GS deliveries and infants, vis-à-vis the respective local populations. Considered from this

[13] Table 10 [53]
[14] Table 10 [53]
[15] Table 10 [53]
[16] Table 10 [53]
[17] Table 4 [54]
[18] Table 4 [54]

perspective, Israel's GS practice emerges as highly intense. As shown in rows 3-6 of Table 5, relatively speaking, more Israeli women and more IP are engaged in GS than their US counterparts. The same is true for the resulting children: In relation to the relevant local population, more GS children are being born in Israel than in the US (6.38 / 8.1 = 1.27). However, as the Baby / Delivery Score is higher in the US than in Israel, the discrepancy further increases when we turn to look at the delivery scores proportions which stands on 1.35. When we refine our assessment by looking at the respective adult populations, in order to account for the inter-country difference in fertility rate, the gap further widens, to roughly 2:3 (1.53). These figures mean that in the years 2010-2014, the load of surrogacy in proportion to the general and adult population was 53% higher on Israeli women as compared to USA women, i.e., for every 2 American women who were engaged in GS, there were 3 Israeli women engaged likewise. When we adopt an IP perspective and set aside non-USA resident IP, the gap evidently widens still further. Removing foreign IP who contract American gestational surrogates, the inter-country discrepancies increase to 1.54-1.86 (rows 7-10).

Local birth rates and fertility rates, indicating an inter-country proportion of 1.62 to 1.71 (rows 11-13) seem to be key to understanding the emerging gaps in GS incidence.

DISCUSSION AND CONCLUSION

The quantitative analysis presented above, of the incidence of GS in the USA and Israel, shows an expansion of the practice in both settings. More specifically, though GS infants comprised a slightly higher percentage of US infants than the respective percentage in Israel, in the years 2010-2014, the incidence of GS per local population was roughly 50% higher in Israel than in the US. Israeli adult women thus have an increased likelihood of being engaged in GS than American adult women. Considered from IP perspective, this gap is all the more instructive, as it rises to 1.86, when we compare each country's GS Deliveries initiated by the country's local IP in proportion to the local Adult population. In other words, there were nearly twice as many GS deliveries to Israeli IP in Israel than to USA resident IP in the USA.

The gap is especially instructive given the scope of each country's potential PI clientele. As mentioned, in the US, gestational surrogates are contracted by multiple IP categories: heterosexual and gay, partnered and single, local and international. In Israel, in contradistinction, only local heterosexual couples and single women are eligible to domestic GS. Israeli gay men and international IP may not initiate such contracts. And yet, as shown, the relative incidence of GS is substantially higher than in the US.

We suggest that the incidence gap echoes the respective gap in fertility rates, i.e., that the higher incidence of GS in Israel reflects the country's higher fertility rates, which exceeds those of all other industrializes countries. The number of newborn infants per year is 60-70% higher in Israel as compared to the respective figures in the USA (rows 11-13, Table 5). When considered against the respective local fertility rates, it may appear that in both countries, IP are as keen to found families as their counterparts who do not need to use gestational surrogates. On a second look, however, the gap widens, because, as mentioned, Israeli GS serve a much smaller category of IP. (Indeed, USA resident IP also opt for CBS. However, as the option to conduct GS

domestically is available to all, it seems reasonable that the proportion is not as high. US specific data, showing substantial inter-state GS travel [38] supports this hypothesis.) This quantitative demonstration of the higher relative incidence of GS in Israel, evidently coheres with qualitative studies that showed GS to be culturally embedded in its broader context (e.g. [14], [17]).

What can we learn about and from these relatively well-regulated arenas of GS practice? What are the implications of the resulting scores on women's health? We should first draw attention to the women left outside the present analysis. As mentioned, the statistics presented above refer only to those GS who have had a live birth. As the Israeli report does not mention cycle numbers, we could compare only deliveries and live births. An Israeli MoH officer informally estimated that the delivery rate of GS is roughly 25-35%, as common in Israel's IVF practice. The US figures that count numbers of GS cycles, represent 47.34% of delivery per GS cycles [38]. However, even the US reports exclude those gestational surrogates who have not reached the embryo transfer phase. These inclusion criteria leave out numerous women who have all collected legal forms and issued medical records, who have gone through medical tests and psychological assessments and eventually, having been approved for the task, have been matched to specific IP, has undergone the clinical preparation for embryo transfer, including repeated clinic visits and intake of medications, most likely, in several cycles of unsuccessful treatment. These women will be paid but a minimal compensation that at best will cover their own GS related expenses. The USA Delivery / Cycle figures and the Israeli estimates are a crucial reminder that the number of women engaged in GS is substantially higher than depicted above. In fact, they strongly suggest most women who engage in surrogacy do not receive the main payment and often go unreported.

Women, who do conceive and have a live birth, are likely to face other concerns. As shown above, the percentage of multiple births is exceptionally high in GS pregnancies. In the general USA delivery reports, twin births comprise 3.3% of all births nationwide, and higher-order births account for another 0.12% [45]. Among USA GS, multiple live births accounted for 30.7% of all live births [38]. Even when compared to women undergoing fertility treatments, GS are more likely to carry multiple pregnancy. (The incidence of having more than one embryo transferred in a treatment cycle in the USA is 60.4% vs 54.6% respectively [36]). In Israel, in the year 2012, halfway through the scrutinized period, 4.4% of all infants were twins; 4.6% of the infants were born in multiple births [46]. In comparison, of 321 domestic GS infants born in Israel in the scrutinized period, roughly 124 (62x2) infants were born in multiple births, amounting to 39%[19] of GS infants in the period. The differences are self-evident and momentous.

In terms of women's health (the health of the GS infants is beyond the present discussion), the elevated percentage of multiple pregnancies means that gestational surrogates face greater health risks than that most non-GS pregnant women. According to the American College of Obstetricians and Gynecologists, women who carry multiple pregnancy have increased risk of various pregnancy-related conditions, like preeclampsia, gestational diabetes, preterm birth, cesarean birth as well as postpartum depression [47]. Additional heightened risks include gestational hypertension, anemia, miscarriage and postpartum hemorrhage [48]. Some of these

[19] (321-259) X 2/321= 0.39; For the sake of clarity, we assumed that all multiple births were twins.

conditions may have long term effects, like increased risk for diabetes mellitus, chronic hypertension, cardiovascular diseases, coronary heart disease and stroke [49]. To the best of our knowledge, gestational surrogates are normally not covered nor are they compensated for such long-term health consequences.

To sum up, more and more women and men in the USA and Israel are opting for GS in order to found families; more and more American and Israeli women engage in GS. These women expose themselves to two related risk. The first is the risk of not conceiving and delivering a live infant, which results in great effort to become a surrogate without reception of the monetary compensation and emotional recognition. The other risk, which faces those GS who do deliver, is that of multiple pregnancy and birth, with their increased risk to various immediate and long term health conditions.

This reality needs to be borne in mind when considering surrogacy related issues that affect the scope of the practice and the wellbeing of the participating women. They should also be recalled vis-à-vis media presentations that often focus on the pain of intended parents and the happy endings of successful GS births. Whereas the desire to have a family, as well as the bliss of GS births and the personal closeness that evolve between some surrogates and IP should be well acknowledged and certainly must not be underestimated, it is equally crucial, when making policy, financial and clinical decisions, to bring forward the tremendous investment of time, money, emotion and bodily resources on the part of women who engage in gestational surrogates.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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