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The policy environment encouraging C-section in Lebanon

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Abstract

Objective: This study aims to analyse the environment encouraging C-section in Lebanon and to reveal approaches that could be adopted for the reduction of this practice, by considering the attitudes, opinions and actions of different stakeholders.
Methods: Semi-structured interviews were conducted with 20 selected key players, including hospital directors, midwives, insurance bodies, syndicates and scientific societies, ministries, international agencies, medical schools, media representatives and women's groups. In addition, a group discussion was conducted with 10 obstetricians. Semi-structured interviews were conducted with a convenience sample of 36 women who had a C-section within 4 months preceding the study. Data was analysed using the Policy Maker software version 2.3.
Results: Findings of the study point to the role of multiple factors in shaping the current practices related to C-section deliveries, among which are the organisation of the health care system, the dominance of the private sector, the lack of physician accountability, the minimisation of midwives' roles in the process and women's misconceptions about C-sections.
Conclusions: Involvement of the diversity of players is important to change practices in maternity care in Lebanon, after considering their position and power. Different strategies making use of available opportunities to improve the current situation are discussed.

Keywords: Cesarean section; Maternity care; Health policy; Lebanon

1. Introduction

Caesarean sections (C-sections) help reduce maternal and perinatal mortality in the minority of cases where women develop complications during pregnancy. On the other hand, being a major surgical procedure, C-section carries risks, particularly respiratory complications and neurological impairment of the newborn, in addition to long term postpartum morbidity for the mother [1]. A recent study estimates that 1.1% of C-sections might result in foetal injuries [2]. Planned repeat C-sections are gaining popularity especially in view of the controversy about the benefits

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and harms of planned vaginal births after C-section. A Cochrane review of 2004 [3] reports a lack of information from trials about the optimal route of delivery for women with previous C-sections. Recent studies, however, point to an elevated risk of unexplained stillbirths in subsequent pregnancies among women with a previous C-section [4], as well as to an increase in maternal morbidity with repeat C-sections [5,6].

Over the past few years, the increasing rates of C-section in many developing and developed countries have raised concern about unnecessary C-sections with no medical or demographic contributing factors [7]. Although there are methodological difficulties in establishing an "acceptable" level of C-section rates across countries [8], there is no evidence that rates over 15% at the population level improve maternal health or newborn outcomes [9].

The observed increase in C-section rates in many parts of the world has been accompanied by the medicalization of childbirth and the routine use of unnecessary interventions, such as the use of routine intravenous infusions and oxytocin in labour [9]. This rise has also been attributed to a reduction in operative vaginal deliveries, especially in Brazil, Czechoslovakia and Canada [10]. It is by no accident that settings, such as Scandinavian countries and The Netherlands, which did not follow this increasing trend in C-section rates in the 1990s, perceive birth as a normal physiological process and value few interventions [9]. Many developing countries are still faced with the challenge of reducing national C-section rates through policy action [11], although few have implemented similar policies. One example is Brazil, where the Ministry of Health has recently imposed an upper limit of 35% for the rate of C-section in public hospitals, a country where rates in the private sector can reach up to 70% [7].

Although clinical, demographic, socio-economic and health service factors for the rising rates have been extensively studied in the literature, little research has been conducted in the Arab World on the practice of C-section. A recent study examining levels of C-section deliveries using the Demographic and Health Survey (DHS) data in 18 Arab countries, found that population level C-section rates were below 5% for 4 countries, 5–15% for 11 countries and above 15% for 3 countries, among which is Lebanon. Moreover, higher C-section rates were observed in countries with better socio-economic and health indicators [12]. As elsewhere in developing countries, few studies have been conducted on the factors leading to high C-section rates in the Arab World. Analysis of the 2000 DHS data from Egypt showed that the rate of C-section was determined by variations in place of delivery, whereby complications were more important determinants in public hospitals, as compared to demographic characteristics, such as maternal age and birth order, which were most important in private hospitals [13]. Further studies are needed to understand how women perceive the relative merits of delivery by C-section or what policies could be encouraged to possibly reduce the incidence of medically non-indicated C-section.

There are therefore several reasons for exploring the potential for reducing excessive C-section rates in certain developing countries, such as Lebanon, whether from the vantage-point of increasing women's control over and decision-making concerning childbirth, reducing medical risk to both mother and newborn through the application of evidence-based medicine, or decreasing the financial burden of excessive C-section rates. Existing literature on C-section tends to focus on identifying the main factors for excessive C-section rates without looking at the environment shaping the views of stakeholders that ultimately determines whether strategies to reduce these rates will be effective. The contribution of policy analysis in this field would be its consideration of the non-clinical and non-demographic factors that have shown to be important in explaining high or rising rates of C-section and analyzing the potential challenge for reducing these excessive rates.

2. Factors leading to increasing C-section rates

Factors that have contributed in many settings to excessive C-section rates can be broadly categorised as (1) physician-specific factors; (2) woman-specific factors; (3) financial factors and (4) management factors concerning the organisation of obstetric care. In practice, however, these categories are likely to overlap and mutually reinforce one another, and each set of factors is embedded within a larger social and economic context in ways that need to be investigated.

(1) *Physician-specific factors* include physician training and/or professional experience [14,15], gender

– with male physicians found in the UK, for example, to be more likely to perform C-section than their female colleagues [7,16] –, age [15], time-convenience, fear of litigation and defensive medicine [9,15], as well as a widespread belief among physicians that C-section is safe and implies few risks [8,9].

(2) *Woman-specific factors* include the socio-economic status of the woman and her or her family's payer status. In recent years, women's demand for C-section has been widely reported as a significant factor explaining the rise in C-section rates. This assertion, however, has been to a large extent negated by empirical findings, such as a study in the UK by Graham et al. [17], which found that of the 166 women interviewed, only 7% reported maternal preference as a factor influencing C-section delivery, and a national survey of 3061 women in Sweden which reported that only 8.2% of the women preferred C-section delivery [18]. The few studies documenting women's views of C-section postpartum indicate that their satisfaction with their delivery experience depended largely on the level of information they had prior to the delivery about a possible C-section and the extent to which they were involved in the decision-making process concerning their delivery [9,17].

(3) *Financial factors:* a number of studies have indicated that the nature of health financing and rewards to physicians implicit in Ministry of Health, insurance or hospital reimbursement policies for C-section versus normal delivery are key factors in explaining high C-section rates [8,19,20]. Interviews with obstetricians in a study in Chile [21] found that financial incentives were also a major factor for high C-section rates in that country. However, this was not due to higher payment to physicians for C-sections, but rather to the low salaries in the public sector: this necessitates them working in the private sector and having frequent movement between different centres in scattered locations, therefore making planning births more desirable. Moreover, hospitals were seen to benefit from C-sections in terms of the extra hospital stays and the higher bed occupancy rates that result from programming births [21].

(4) *Management factors* have been shown to play a significant part in explaining high C-section rates, including type of hospital, medical and institutional influence over women's choice, the extent of team-work among health-care providers, the role and staffing of midwives, and other factors concerned with the organisation of obstetric care [9,11,14,17,21,22]. For example, inadequate care and supervision during labour, as well as insufficient numbers of trained midwives have both been suggested as reasons for the rising C-section rates in the UK [7].

As noted above, however, several of these categories, when combined, are likely to be important in explaining high rates of C-section. In a study in Brazil, for example, using a postpartum survey, participant observation in obstetric wards and in-depth interviews, Hopkins [22] found that contrary to the popular image that women are requesting C-sections, the majority of women surveyed did not seek this option. However, doctors were highly influential in encouraging the so-called "demand" for surgical delivery. This observation lends weight to the importance of qualitative methodologies in investigating stakeholders' views about C-section practice and rates.

3. Factors conducive to change

A cross-national study of C-section rates in Latin America [11] concluded that actions to reduce C-section rates need to involve public health authorities, medical associations, medical schools, doctors, midwives, nurses, the media and the general population. Yet, few studies have been conducted to explore these various stakeholders' views on C-section practice in a developing country context.

A pilot effort to reduce C-section rates in Canada concluded that critical factors leading to the "right attitude" towards intervention in birth should include "taking pride in a low caesarean rate, developing a culture of birth as a normal physiological process, and having a commitment to one to one supportive care during active labour" [9, p. 3]. Again, however, there is little literature indicating how such an attitude can be instilled. Certainly, practice guidelines alone do not change behaviour and there is need for greater public

awareness of physician and hospital C-section rates [14]. Other literature has pointed to the importance of team-work and the further involvement of women in decision-making regarding their birth experience, as critical pre-requisites for change [9].

4. C-section in Lebanon

Lebanon is one good example of a developing country where an unregulated health care system, together with the dominance of the private health care sector and of private health insurance, has created the optimal environment for the medicalization of childbirth. Previous studies have already indicated high levels of medicalized and non-evidence-based delivery practices. For example, 88% of deliveries take place in hospitals in Lebanon, and many of the practices during labour and delivery that are categorised by WHO as unnecessary or even harmful (such as enema, perineal shaving, episiotomy, induction of labour) are routinely applied [23].

Two national surveys conducted in Lebanon in 1996 [24] and in 1999 [25] have shown rather high C-section estimates of 17% and 23%, respectively, with higher rates in the capital Beirut (22.6% and 29.8%, respectively). Moreover, estimates of C-section delivery rates in micro-level studies have found rates ranging between 18% [23] and 35% [26] according to the source.

Among a sample of hospitals in Beirut and its suburbs, C-section rates were higher for deliveries occurring during weekdays, for women covered by the Ministry of Public Health insurance scheme and for those receiving prenatal care in private health centres [26]. Unlike findings from studies on C-section in Latin America [8,11] which indicated that women with greater education and socio-economic position had greater C-section rates, findings from hospitals in Beirut and its suburbs [26] indicate that C-section rates are higher among women with higher illiteracy levels. However, in the national survey in 1996 [24], C-section was associated with higher education levels among women.

Confirming studies elsewhere on women's views of C-section [17], Chaaya et al. [27] found in a study in the capital Beirut and the agricultural area of Bekaa that the incidence of post-natal depression is higher among those who delivered by emergency C-section, and women were not given sufficient information about the risk of C-section before delivery. Moreover, the results of a qualitative study among postpartum women in Lebanon indicated that women preferred vaginal births and considered them a "success". These views were accentuated in rural settings where women expect deliveries to be a "painful" process, not necessarily accompanied by epidurals; thus recognising it as a normal process and expecting less medical interventions [28].

Any effort for the reduction in the rate of C-section in Lebanon needs to be preceded by a thorough understanding of the different forces responsible for the perpetuation of this practice. This would provide valuable insights into the different opportunities for change available in the Lebanese setting.

Based on our experience and the existing literature, we would hypothesise that the organisation of obstetric care and hospital policies are significant factors in Lebanon. The role of health insurance companies in promoting or discouraging C-section has not been explored in Lebanon and is expected to be significant. Moreover, physician-specific factors such as convenience, economic incentives, and insurance companies' reimbursement policies are hypothesised to foster increasing rates of C-section deliveries.

This study aims provide an analysis of the policy environment encouraging C-section in Beirut and its suburbs and to reveal approaches that could be adopted for the reduction of this practice in hospitals by considering the attitudes, opinions, and actions of different stakeholders.

5. Methodology

We developed a list of all key players and interest groups who could provide us with their expert opinion regarding the C-section delivery in Lebanon. The list included physicians (Ob/Gyn, anaesthetists and paediatricians/neonatologists), hospital directors, midwives, insurance bodies (private and public), orders and societies (physicians, midwives and nurses), deans of medical schools, ministries (Ministry of Public Health and Ministry of Social Affairs), international agencies (UNFPA, UNICEF and WHO), women's groups, individual women, and key people in the media.

All selected persons were contacted and appointments were set for interviews. Three of the authors (AK, RS and TK) conducted in-depth interviews with 20 stakeholders, except for obstetricians. Obstetricians working in different hospitals in Lebanon and from different medical schools, along with the head of the Lebanese Society of Obstetrics and Gynaecology (LSOG), were invited to a group discussion of 10 people on the issue of C-section practices in Lebanon. The interviews were conducted between November 2003 and February 2004.

The interviews and the group discussion were semi-structured, with same questions addressing stakeholders' personal impression about the rate of C-section deliveries in Lebanon; their knowledge of existing national policies for normal and C-section deliveries; their knowledge of WHO recommendations and their attitude towards them and possible explanations for the high rate of C-section deliveries in Lebanon. Probing served to identify opportunities and obstacles that work for or against reduction of C-section delivery and to learn more about their power as policy makers and their opponents' power concerning this issue. In this study, we used a subjective evaluation of power: we were asking the interviewees whether they exert any power in shaping policies and practices related to C-section or how do they think they can influence policy. Finally, the interviewees were invited to suggest mechanisms to introduce policies for reducing C-section. The interviews lasted for around 30–45 min and were conducted in Arabic and English, and transcribed verbatim to English.

In addition, a convenience sample of 36 women who had undergone a C-section in different hospitals in Beirut during the 4 months preceding the study was selected through private obstetricians' clinics. Two trained interviewers visited women at home and conducted semi-structured interviews about their experiences with a C-section delivery.

Policy Maker version 2.3 was used to organise, manage and analyse the data. This software uses applied political analysis as a method for organising, managing and analyzing policies. The analysis is guided through matrices for five steps, including (1) defining the policy under question, (2) identifying different stakeholders, (3) determining stakeholders' positions and relationships with each other, (4) determining opportunities and barriers for adopting the policy and, (5) suggesting strategies and assessing their impact [29]. The use of the Policy Maker requires certain inputs about the power of each stakeholder with regards to the discussed policy. The research team used the subjective evaluation of power by each interviewee and its own assessment of their power for the current analysis. Further discussions among the team members regarding the qualitative data resulted in a similar evaluation of power to the subjective evaluation of the interviewees. Common strategies that were mentioned in different interviews were assessed on feasibility.

In the following sections, we first present stakeholders' interests, positions, relative power and relationships with each other and consider opportunities and obstacles facing the policy. Then, we suggest strategies for the reduction of C-section rates.

6. Definition of the policy

At present there is no existing governmental regulation or policy concerning the rate of C-section delivery in Lebanon. In this paper, we are interested in exploring the potential for introducing a policy to reduce the C-section rate in Lebanon, despite the absence of extensive public discussion on this issue presently in the country. We borrow Barker's definition of "policy" to mean: "the networks of interrelated decisions which together form an approach or strategy in relation to practical issues concerning health care delivery" [30, p. 27]. Thus in this case, we are considering the decisions at clinical, health system and governmental level which affect C-section rates in Lebanon.

7. Key players

For the purpose of our analysis, the interviewed stakeholders were grouped into the following main categories: governmental bodies, non-governmental organisations, hospitals, insurance agencies, the Order of Physicians, women, obstetricians, anaesthetists, paediatricians, nurses, midwives and the media.

Fig. 1 presents all groups of players according to their position towards policies favouring reduction of C-section and their relative power in terms of influencing the formulation and the implementation of such policies.

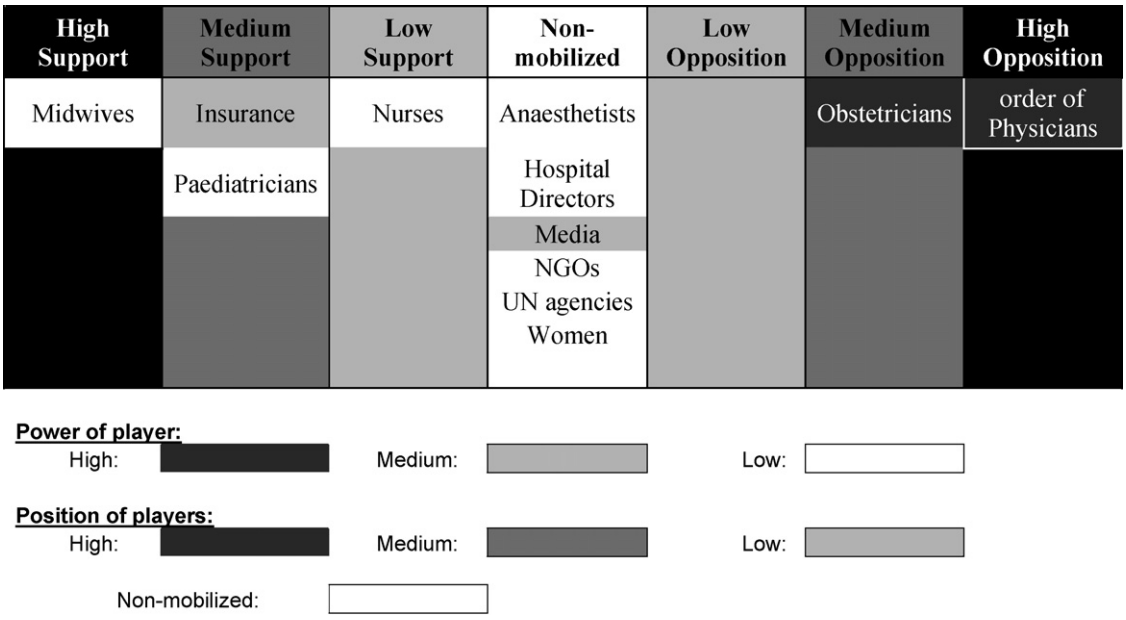

Fig. 1. Position map: current positions on the entire policy.

This position map reveals that some players with relatively low power are highly supportive of the formulation and implementation of policies for reducing C-section rates in Lebanon. The midwifery schools in Lebanon offer a training supporting normal deliveries and low interventions during childbirth. However, midwives are quite marginalised in private hospitals, especially in urban settings, and their roles are restricted to those of an obstetric nurse: the encounter between the woman and the midwife happens only during labour in hospitals and the midwife's role is limited to providing information on routine procedures, such as available pain relief methods and some support during labour. This situation was clearly explained during the interview with a prominent midwife, in addition to physicians' reluctance, during the group discussion, in admitting that midwives are trained to possess all necessary skills for normal deliveries. The situation is a little different in rural areas and "poorer" urban neighbourhoods, where some midwives have their own private practices. This is mainly due to a social preference for women providers among the more conservative rural populations. Moreover, midwives do conduct vaginal deliveries in addition to supporting women during labour in public hospitals, despite the fact that the latter represent a small proportion of all hospitals in Lebanon. In addition, midwives lack professional representation, such as a syndicate or an association, which could lobby for their participatory and leading role in private institutions. Thus, midwives as a group of players, were classified as having low power with high support to policies favouring reduction in C-section practices.

There is also a substantial number of players who are non-mobilised, the most important group being women. Our series of interviews with women highlight the lack of information on C-section deliveries in terms of indications, procedures, interventions and recovery period. In Lebanon, there are no organised, systematic ways of delivering information relevant to the delivery process, to the complications that might arise during delivery necessitating a C-section, or to differences in postpartum experiences between normal and C-section deliveries. The type and the amount of information women get are totally subject to individual physicians' practices and approach to childbirth. We believe that this body of information is the necessary basis for mobilising women to be more closely involved in decisions related to their delivery.

Obstetricians and the Lebanese Society for Obstetricians and Gynaecologists (LSOG), working under the umbrella of the Order of Physicians in Lebanon, are

an extremely important group of players. The health care sector in Lebanon is dominantly private and most hospitals do not have written policies for labour and delivery [23]. Obstetricians practicing in these hospitals represent a mosaic of medical education and training backgrounds and usually follow the standards of care upon which they have been trained. Moreover, there are no efforts by medical scientific bodies to organise and standardise maternity care and medical practices. Most of the obstetricians interviewed for this study stated that financial profits are not the major reason for the high levels of C-section, in contrast to what was found in a study in Chile [21], pointing instead to the convenience factor as a leading force behind the observed trend. Some pointed to the decline in the quality of obstetric training, resulting in a "new generation" of obstetricians who lack skills in operative vaginal deliveries or do not feel comfortable in handling complications and opt easily for a C-section. There were limited concerns about professional liability. Malpractice suits are very rare as the patient-provider relationship is built on trust; people rarely believe that they can influence any change in the system. Moreover, the fact that some lawsuits have been filed is not likely to influence C-section practices in the country in general. The group discussion revealed a lack of strong commitment from obstetricians to actively organise efforts to instigate and enforce unified standards of obstetric practices or to find means for ensuring the delivery of good quality maternity care.

Insurance companies or third party payers represent another important stakeholder of interest to this analysis. We interviewed two representatives from this group with opposing support to the C-section issue. The differing level of support is probably due to the difference in the insured population with these two companies. One major insurance company reflected their interest in and benefit from reducing C-section rates in Lebanon. However, they considered other major surgical interventions (e.g. open heart surgeries) as providing higher cost benefits if reduced, therefore did not regard reducing C-sections as a priority issue. Another third party payer has been actively involved in efforts to reduce C-section rates by producing reports and monitoring individual obstetricians' practices. Their approach has generated some debate about interests in cost containment and assessing medical indications for C-section between obstetricians and third party payers or insurance companies. It is however unlikely that pressure from the third party payers will lead to changes in practices: if they withhold reimbursement to the physician for having a high c-section rate, they might risk losing clients due to high competition between insurance companies.

8. Opportunities

There were a number of opportunities identified through key informant interviews (Table 1), which if promptly used, may introduce small changes in the current practices in Lebanon.

In Ministry of Public Health's (MOPH) insurance schemes, physician reimbursement for C-section deliveries is slightly higher than that for vaginal deliveries. Private insurance companies usually follow a similar norm in payment schemes. We identified a plan devised by MOPH bodies to reduce this difference or even to eliminate it all together. They are proposing a slight reduction in the reimbursement for the C-section deliveries and a slight increase in the reimbursement of vaginal deliveries. Although physicians gave financial incentives a minimal role in encouraging C-section deliveries, nevertheless such an opportunity could be

Table 1
Opportunities for the reduction in C-section rates

Opportunity	Players	Action
Opportunity #1: changes in the physician's payment scheme	Obstetricians; insurance; women	Raising recommendations to MOH and third party payers
Opportunity #2: the development of standards of care for intrapartum and postpartum management in two maternity centers	Obstetricians; women	Review and recommend for adoption at the national level
Opportunity #3: cooperation with NGOs, women's groups and media to raise women's awareness	Women	Workshops, meetings

used to establish a more equitable payment scheme and to overcome financial considerations in general.

Women's groups are unfortunately not very actively involved in maternal health issues in Lebanon. We approached a few representatives of these groups as part of our key informant interviews and identified their involvement in social rather than health issues concerning their communities. However, they expressed a willingness to cooperate and mediatise issues around women's health, if presented with valid arguments about its importance as a priority for women's health in the country.

9. Obstacles

A number of obstacles for changing practices related to C-section deliveries were identified (Table 2). These were grouped into obstacles related to physician's factors, those related to the organisation of the health system, and those related to women.

9.1. Physician-related factors

Obstetricians participating in the group discussion reported lack of skills among young obstetricians to conduct operative vaginal deliveries. Following recommendations of many international scientific societies, obstetric residency programs in Lebanon are no longer training physicians to perform operative vaginal deliveries for certain obstetrical indications, such as twin pregnancies or breech presentations. This has created insecurity among obstetricians to perform obstetric manoeuvres and has acted as an important impetus for decisions to conduct C-section. The fact that training programs are following the latest recommendations in this matter was positively interpreted by some of the obstetricians participating in the group discussion; however, a few representatives of the "older" generation of practitioners considered it a pitfall in the training programs of different medical schools.

The most important factor cited by obstetricians, that affects their decision to perform a C-section is the convenience of controlling the date and time of delivery. Health care in Lebanon is mainly private and the services provided are on a one-to-one basis. Obstetricians handle the childbirth of each woman attending their private clinic and perform deliveries in different hospitals. Therefore, scheduling births to avoid odd hours of the day or weekends becomes appealing and creates less hassle to moving around a lot between hospitals during the same day. One obstetrician participating in the group discussion advocated for group practice to overcome the convenience factor. However, others identified a number of obstacles preventing the application of group practice in this setting, among which were women's preferences for continuity of care and financial considerations.

Another physician-related factor identified in this study is the lack of continuous medical education outside health care facilities affiliated with academic institutions. The absence of a culture accepting the need for evidence-based practice is only one of the consequences of this situation. The mosaic of obstetric

Table 2
Obstacles for the reduction in C-section rates

Obstacle	Players	Action
Physician factors		
Lack of training in operative vaginal deliveries	Obstetricians; women	
Convenience factor and type of practice	Insurance; women	Change type of practice
Different backgrounds of medical training	Obstetricians; Order of Physicians; women	Continuous medical education
Health system related factors		
Lack of national guidelines of standard care	Governmental bodies; insurance; obstetricians; Order of Physicians; women	Recommend and enforce national guidelines
Lack of coverage of pain relief in vaginal delivery	Anaesthetists; insurance; obstetricians; women	Recommend coverage of pain relief in vaginal delivery
Lack of audit and supervision of practice	Obstetricians; Order of Physicians; women	Implement hospital-based audit
Women related factor		
Women's misconceptions about C-section	Women	Increase awareness of women

practices found in Beirut or outside of the capital mirrors the variety in education and training backgrounds of practicing obstetricians. The medical schools functioning in Lebanon graduate physicians following either the French or the American educational system. Moreover, there are a substantial number of medical graduates returning back into the country after graduating from Eastern European schools or other Arab countries. The LSOG counts around 36 different training backgrounds of obstetricians licensed to practice in Lebanon. These physicians pass through one major examination to receive their practice permits soon after their graduation from medical schools either inside or outside Lebanon. There are no legal requirements for renewal of these permits. Instituting continuous medical education into the legal system for providing practice permits or providing incentives for obstetricians to seek and participate in continuous medical education opportunities remains a major challenge.

9.2. Health system related factors

The most important of health system factors, as perceived by different players, is the lack of unified national standards and guidelines for obstetric care in the country. There are individual hospital initiatives to devise and implement standards of care for intrapartum and postpartum management of birth; however, these could not be considered generalisable to the entire country. A main obstacle in the development and mainly in the enforcement of such standards is no doubt the diversity in medical schools existing in Lebanon. This is a situation where, given the lack of power of a higher authority in the organisation of the private health care sector, it is difficult to reach a consensus on best practice.

Epidurals are among the common forms of pain relief in normal vaginal deliveries used in facilities in Lebanon [23]. Women interviewed in this study contrasted and compared the pain experienced in vaginal and C-section deliveries. One of the main identified factors leading to a demand in C-section is the notion of painless deliveries. In this context, pain relief methods become very desirable. However, private insurance companies and public social security systems do not reimburse epidurals in vaginal deliveries for cost reduction purposes. Epidurals are considered an addition to the basic package for a vaginal delivery, in contrast to total financial coverage for anaesthesia (general, spinal or epidural) for C-sections.

9.3. Women-related factors

As mentioned above, women mentioned their quest for painless deliveries as an impetus to consider a C-section. Many of these women reported in the interview a lack of information about the postpartum period following C-section delivery before they made the decision to undergo it. Our interviews with women also showed that the idea of C-section as a painless delivery is sometimes nurtured by obstetricians, encouraging women towards such a decision.

"According to what I hear... it [Caesarean] is easier than normal delivery. Doctors say that it is easier to have a Caesarean than to have cuts and sutures with a normal delivery."

"My doctor said that I would be at risk of tearing my wound. She said "why do you want to suffer with pain and try a normal delivery?"

This, in addition to the absence of systematic ways of providing information about the childbirth process in general to women in Lebanon, has created the so-called "demand" for C-section deliveries.

10. Strategies

A number of strategies were identified throughout the interviews and discussion within the study team (Table 3). These strategies, if implemented by the interested bodies, can pave the way towards a reduction in the observed C-section rates in Lebanon.

10.1. Audit system

Hospital audits are used in certain facilities, especially the ones affiliated with academic institutions. The medial director of one of the hospitals with the lowest C-section rate in Beirut and the suburbs attributed their success to the rigorous audit system instituted in their facility. Most obstetricians participating in the group discussion and the hospital directors or administrators interviewed in the study agreed largely on the importance of instituting an audit system in

Table 3
Recommended strategies to reduce C-section rates

Strategy name	Actions	Problems	Benefits
Strategy #1			
Audit system	1. Implement the system within the hospitals	Logistic difficulties	More accountability
		Lack of incentives on the behalf of the departments within hospitals	
Strategy #2			
Change of type of practice	1. Encourage existing group practice through promoting the idea in the media, among women and obstetricians (dissemination meetings)	Women's resistance: continuity of care	Decrease the convenience factor
		Physician's resistance, mainly financial	
Strategy #3			
Develop national guidelines	1. Establishing of a national task force	Different schools of practice	Strengthening the basis for litigation
	2. Consolidating the network of concerned parties 3. National conference to discuss and launch the guidelines		
Strategy #4			
Implementation of national guidelines	1. Coordination between syndicate of physicians and different ob/gyn departments within hospitals	Lack of incentives to implement the guidelines	Standardization of care nationally
		Lack of accountability	
Strategy #5			
Mobilization of women	1. Awareness campaigns to correct misconceptions and change perceptions	Perceived credibility of physician	Decrease acceptance and demand of C-section
	2. Media campaign		
Strategy #6			
Sensitization of media	1. Dissemination meetings with key media people 2. Press conference for all	Lack of incentive and interest	Place C-section on the agenda of media

obstetric departments as a mean to evaluate practices and control the use of unnecessary interventions, among which are non-indicated C-sections.

Instituting an audit system in all maternity wards in Lebanese hospitals will definitely increase the accountability of individual practitioners to the overall system adopted in the hospital. One of the anticipated problems to recommend this strategy is the lack of incentives in private facilities. It demands more effort by all members of the obstetric department and better commitment to the provision of quality care. The current accreditation system of private hospitals may introduce such an incentive if implemented as an on-going activity.

10.2. Change of type of practice

Obstetricians identified convenience in the timing of the delivery as the main barrier to reduce C-section rates. Some mentioned their struggle in trying to form group practice to reduce the effect of the convenience factor. The LSOG is not well acquainted with group practice and some resistance is anticipated, mainly due to competition in practice among obstetricians working in Beirut and the suburbs. The recommended strategy therefore suggests the introduction of the idea to the public through the media and to professionals through specialised meetings.

10.3. National guidelines

The development of national guidelines to standardise the practice of maternal health care throughout the country has long been the interest of several stakeholders, such as the LSOG and the Ministry of Public Health. The study team recommends that a national task force comprised of different schools of medicine and of different interested parties should be overseeing such an activity. This task force can be used to bring better collaboration and more commitment to the implementation of the guidelines. One thing regarded as more challenging than the mere fact of establishing them is the implementation of these guidelines: it needs a very close collaboration and continuous follow-up by the LSOG, the Ministry of Public Health and the administrations of hospitals. It is to be noted here that the issue of development and implementation of guidelines extends beyond obstetrics, to all other medical fields.

10.4. Mobilisation of women

The study showed a substantial level of acceptance of C-section deliveries among women who had undergone this procedure. The majority of interviewed women believed that a C-section was necessary for the "success" of their deliveries with very few knowing the medical indication for their C-section. Some primiparous women were expecting a "painless" delivery; however, they conveyed their disappointment at not being informed about the extent of pain experienced postpartum. Interestingly, throughout their discourse, women maintained their trust towards the obstetrician regarding the decisions taken during their childbirth and eliminated questions raised in their minds by saying "they (the obstetricians) know best".

Changing women's perspectives about the incomplete information received by the medical professionals is very important. This aims at ultimately eliminating the nurtured demand for C-sections. It is necessary to first mobilise the media and women's groups to accord the needed attention and importance to issues related to medicalization of maternal health in general and to non-medically indicated C-sections in particular. Awareness campaigns can inform women about the risks of the procedure and the required long period of recovery. The establishment of prenatal classes in hospitals or community centres that are acceptable and affordable to women can serve as the basic forum for the exchange of information on evidence-based obstetrics. The aim of these classes should extend beyond being purely informational to providing women with skills for better involvement in decisions regarding their pregnancy and birth. One form of such classes is currently being evaluated by the research team through a randomised controlled trial. Considering the extent of trust society accords to physicians, these campaigns and classes need to be conducted in close collaboration with professional bodies such as the LSOG and midwifery representatives. This approach will provide support to the health messages and reduce physicians' resistance to prenatal classes.

10.5. Sensitisation of the media

The media has a very powerful and influential role in the Lebanese society. Day-time television programs are increasingly targeting women's health issues. These programs are run in their vast majority by journalists with no training in health and, in many instances, serve as a marketing tool for the specific physician hosted as a guest speaker. The representatives of women's groups that we interviewed highlighted their links and close collaboration with the media. This opportunity could be used to bring forward the issue of unnecessary C-sections into their agenda by disseminating local and international research findings to key media people with the purpose of sensitising them towards issues around the medicalization of childbirth in general.

11. Conclusion

This paper analyses the environment encouraging C-section practices in Beirut, by looking at the different stakeholders involved and trying to identify opportunities for change. The health system in Lebanon is based in its majority on the private sector, with negligible control over the quality of care and minimal role given to regulatory bodies: one of the consequences of 15 years of civil war. This has in fact created a situation where physicians practice with a lack of accountability and use technologies without following practice guidelines.

The findings of this study reveal that current practices of C-section deliveries in Lebanon are shaped by multiple interrelated factors. One example of an important interrelation is seen between the women-related and physician-related factors. Lack of women's involvement in the decision-making process stems partially from the total trust accorded to their individual obstetricians. Similar reports are found in the work done by Inhorn [31] in IVF clinics in Egypt and Lebanon. This situation has led to an environment where decisions are completely made by obstetricians, with regard to their own convenience in relation to time and day of delivery. In addition, this has led to the creation of a certain "demand" for C-sections among women, as reported by obstetricians. A similar environment inducing an increase in C-section is reported in Latin American countries [32].

Any change in the current situation related to practices in maternity care, therefore, needs to be approached through involving the diversity of players and considering their position and power, as well as trying to make use of the opportunities available. In view of the above, we find it useful to address the issue of increasing C-section deliveries in Beirut and its suburbs through the following identified pathways:

(1) Develop national guidelines by establishing a national task force and consolidating the network of different parties. This will also strengthen the basis for litigation. The challenges that need to be considered in the process relate to the fact that obstetricians have been trained in different medical education systems, to the lack of incentives to implement guidelines and to the absence of physician accountability. A new system of establishing audits and surveying C-section cases in private hospitals may support the implementation of the guidelines and standards of care. Such a system will potentially create a working environment with an emphasis on professional accountability.
(2) Encourage the very few existing group practices in obstetrics. This could be done through media campaigns for promoting the idea among women and through working closely with professional medical associations such as the LSOG. Challenges facing this change need to be considered: acquainting women with the benefits of group practice and giving them a major role in the process of care can cater to their preferences for continuity of care; providing an equitable reimbursement schemes can reduce physicians' resistance due to financial considerations.
(3) Conduct awareness campaigns to correct misconceptions and influence the perception of women with regards to their acceptance and demand for C-section. Again, it is important to conduct such activities in collaboration with physicians' groups in order to secure physicians' support and provide a good level of perceived credibility to media messages: women perceive media messages supporting and encouraging vaginal births that are communicated by physicians as highly credible.
(4) Encourage the activation of an organisation for the professional representation of midwives in Lebanon. This will help mobilise midwives to undertake a proactive role in maternity care in order to be a source of information and support for women throughout pregnancy, birth and postpartum. This would ultimately contribute to improving the overall quality of maternity care in the country.

References

[1] Glazener CMA, Abdalla M, Stroud P, Naji S, Templeton A, Russell IT. Postnatal maternal morbidity: extent, causes, prevention and treatment. BJOG 1995;102:282–7.
[2] Alexander JM, Leveno KJ, Hauth J, Landon MB, Thom E, Spong CY, et al. Fetal injury associated with cesarean delivery. Obstetrics and Gynecology 2006;108(4):885–90.
[3] Dodd J, Crowther C. Vaginal birth after Caesarean versus elective repeat Caesarean for women with a single prior Caesarean birth: a systematic review of the literature. The Australian & New Zealand Journal of Obstetrics & Gynaecology 2004;44:387–91.
[4] Smith GC, Pell JP, Dobbie R. Caesarean section and risk of unexplained stillbirth in subsequent pregnancy. Lancet 2003;362:1779–84.
[5] Silver RM, Landon MB, Rouse DJ, Leveno KJ, Spong CY, Thom EA, et al. Maternal morbidity associated with multiple repeat caesarean deliveries. Obstetrics and Gynecology 2006;107:1226–32.
[6] Nisenblat V, Barak S, Griness OB, Degani S, Ohel G, Gonen R. Maternal complications associated with multiple caesarean deliveries. Obstetrics and Gynecology 2006;108:21–6.
[7] Lancet Editorial. Caesarean section on the rise. Lancet 2000;356:1697.
[8] Gonzalez-Perez GJ, Vaga-Lopez MG, Cabrera-Pivaral C, Munoz A, Valle A. Caesarean sections in Mexico: are there too many? Health Policy Plan 2004;16:62–7.

[9] Johanson R, Newburn M, Macfarlane A. Has the medicalisation of childbirth gone too far? BMJ 2002;324(7342):892–5.
[10] Notzon FC. International differences in the use of obstetric interventions. JAMA 1990;263:3286–91.
[11] Belizan JM, Althabe F, Barros FC, Alexander S. Rates and implications of caesarean sections in Latin America: ecological study. BMJ 1999;519:1397–402.
[12] Jurdi R, Khawaja M. Caesarean section rates in the Arab region: a cross-national study. Health Policy Plan 2004;19:101–10.
[13] Khawaja M, Kabakian-Khasholian T, Jurdi R. Determinants of caesarean section in Egypt: evidence from the demographic and health survey. Health Policy 2004;69:273–81.
[14] Burns LR, Geller SE, Wholey DR. The effect of physician factors on the cesarean section decision. Medical Care 1995;33:365–82.
[15] Kew A, Cohlen BJ, Kanhai HH, Bruinse HW, Visser GH. Caesarean section on request: a survey in The Netherlands. European Journal of Obstetrics and Gynecology Reproduction Biology 2004;113(2):186–90.
[16] Ghetti C, Chan BK, Guise JM. Physicians' responses to patient-requested cesarean delivery. Birth 2004;31(4):280–4.
[17] Graham WJ, Hundley V, McCheyne AL, Hall MH, Gurney E, Milne J. An investigation of women's involvement in the decision to deliver by caesarean section. BJOG 1999;106: 213–20.
[18] Hildingsson I, Radestad I, Rubertsson C, Waldenstrom U. Few women wish to be delivered by caesarean section. BJOG 2002;109(6):618–23.
[19] Homer CS. Private health insurance uptake and the impact on normal birth and costs: a hypothetical model. Australian Health Review 2002;25(2):32–7.
[20] Barros FC, Vaughan JP, Victora CG, Huttly SRA. Epidemic of caesarean sections in Brazil. Lancet 1991;338:167–9.
[21] Murray SF. Relation between private health insurance and high rates of caesarean section in Chile: qualitative and quantitative study. BMJ 2000;321:1501–5.
[22] Hopkins K. Are Brazilian women really choosing to deliver by cesarean? Social Science & Medicine 2000;51:725–40.
[23] Khayat R, Campbell O. Hospital practices in maternity wards in Lebanon. Health Policy Plan 2000;15:270–8.
[24] Pan Arab Project For Child Development, Ministry of Public Health. Lebanon: Maternal and child health survey. Lebanon; 1996.
[25] UNICEF. Ministry of Public Health. National Perinatal Survey. Beirut: UNICEF, Lebanon Country Office; 2000.
[26] Kassak K, Mohammad Ali A, Abdallah A. High Caesarean section in Beirut: convenience and economic incentives (unpublished).
[27] Chaaya M, Campbell O, El-Kak F, Shaar D, Harb H, Kaddour A. Postpartum depression: preferences and determinants in Lebanon. Archieves of Women's Mental Health 2002;5:65–72.
[28] Kabakian-Khasholian T, Campbell O, Shediac-Rizkallah M, Ghorayeb F. Women's experiences of maternity care: satisfaction or passivity? Social Science & Medicine 2000;51:103–13.
[29] Reich MR, Cooper DM. Policy Maker. Computer-aided political analysis: improving the art of the feasible, v.2.3 Brooklyn, MA: PoliMap; 1996.
[30] Barker C. The health care policy process. London: Sage Publications; 1996.
[31] Inhorn MC. Privacy, privatization, and the politics of patronage: ethnographic challenges to penetrating the secret world of Middle Eastern hospital-based in vitro fertilization. Social Science & Medicine 2004;59:2095–108.
[32] Behague DP. Beyond the simple economics of cesarean section birthing: women's resistance to social inequality. Culture, Medicine and Psychiatry 2002;26:473–507.