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Prevalence of normal delivery to cesarean section in Tarhuna city, Libya, the ratio, causes, and solution

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معدل الولادات الطبيعية إلى العمليات القيصرية في مدينة ترهونة (ليبيا) المعدل، المسببات، والحلول

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Abstract:

The method for giving birth to babies in the Tarhuna area of Libya is now through Caesarean section (C/S), which is on the rise. There have been several factors not related to a mother's medical issue that have contributed to the high C/S rate including: the mother's desire for a C/S; the war in Libya leading to a lack of stability in the country; the financial incentive for providers to do C/S's; the lifestyles of the many women; and the quality of the healthcare profession in Libya. The aim of this study is to assess the rate of C/S's performed at both public and private hospitals as well as to investigate what factors have influenced the increase in C/S's at both public and private hospitals. The study included data collected from 1607 births delivered at a public and private hospital in Tarhuna over a period of seven months (January, February, March, April, May, June, and July 2020) to evaluate the number of C/S's performed as compared to the number of normal vaginal deliveries. The findings of the study were as follows: The rate of C/S's at the public hospital located in Tarhuna was 55.27% of all births performed; whereas at the private hospital located in Tarhuna, 59.79% of all births performed were C/S's. Based on the findings of this research, it has been concluded that C/S's in Tarhuna exceed WHO recommendations and exceed C/S rates for some neighboring Arab countries.

Keywords: Pregnancy, Normal vaginal delivery, Caesarean section, non-medical causes of Caesarean section.

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الملخص

اصبحت العمليات القيصرية منتشرة كثيرا لولادة الاطفال في مدينة ترهونة (ليبيا). هناك العديد من الاسباب الغير طبية التي ادت الى زيادة حدوث العمليات القيصرية مثل، طلب الامهات، الحالة الامنية الغير مستقرة في البلاد، تجارة الاطباء، نمط حياة النساء الحوامل، ونوعية الاطباء. تهدف هده الدراسة لتحديد معدلات حدوث العمليات القيصرية ة الولادات الطبيعية في القطاعين الخاص والعام في المدينة. تهدف هده الدراسة كدلك لتحديد الاسباب الغير طبية التي ادت الى ارتفاع حدوث العمليات القيصرية مقارنة بالولادة الطبيعية في مدينة ترهونة. 1607 حالة ولادة تم تجميعها وتحليلها في مدينة ترهونة في القطاعين العام والخاص خلال سبع أشهر في سنة 2020 لتقييم معدلات حدوث العمليات القيصرية والولادات الطبيعية. النتائج اظهرت ان معدلات حدوث العمليات القيصرية في القطاع العام 55,27%, بينما في القطاع الخاص 59,79% من الولادات اجريت بواسطة العمليات القيصرية. الخلاصة ان معدل الولادات في المدينة بواسطة العمليات القيصرية عالي جدا مقارنة بتوصيات منظمة الصحة العالمية والدول العربية المجاورة.

الكلمات المفتاحية: الحمل، الولادة الطبيعية، العمليات القيصرية، الاسباب الغير طبية للعمليات القيصرية.

Introduction

Pregnancy is the time from conception (the beginning of life) until birth (when baby leaves the uterus). In pregnancy, the fertilized egg (ovum) becomes a single cell (zygote) implanted into the uterus, forming a new human being (baby) (Harms, 2006). Pregnancy lasts for about 40 weeks from the first day of a woman's last menstrual period, divided into three trimesters, each lasting approximately three months (Byrom et al.,2009). Normal delivery (i.e., vaginal delivery) is the process of having a normal healthy baby, born through vagina and at the right time without complications (Weckend et al., 2021). Unless a woman has some health problems, having a normal delivery should not be difficult. Plus, the process of a normal delivery provides significant benefits such as healthier babies and faster recovery time for the new mother. Normal vaginal delivery provides the following benefits for mothers and neonates: shorter hospital stays, decreased incidence of hysterectomy due to excessive postpartum bleeding, decreased incidence of maternal cardiac arrest and a quicker recovery rate than C/S delivery, and decreased incidence of neonatal respiratory problems (Buhmschi et al., 2006). Pain and stress during delivery, risk of rupture uterus, and sexual problems that face the mother because injuries that happening during NVD are the main complications of NVD (Arjmandi Rafsanjani.,2005). In cases where delivery through the vagina is dangerous for either the mother or baby, caesarean section is the surgical method to deliver the baby by making an incision through the abdominal wall of the mother. The advantages of Caesarean Section include the following; there is no pain in the abdomen or perineum, the risk of vaginal injury to the mother is reduced, the baby will not be deprived of oxygen during delivery, and the risk of trauma to the infant is significantly reduced during delivery (Mylonas et al.,2015). However, C/S is associated with several possible complications, including postpartum hemorrhage, wound hematoma, intra-abdominal hemorrhage, bladder/bowel injury, urinary tract infections, venous thromboembolism, diminished fertility, and Placenta Previa/Accrete (Shabnam,2013). World Health Organization recommends that all C/S rates fall between 10 and 15 percent of all births; this recommendation is not supported by statistical data from many countries. In 2007 the C/S rates in both the USA (31.8%) and South Korea (35.3%) far exceed this recommendation. Some LatinAmerican countries have an even higher incidence of C/S with rates of as high as 60%. (Magne et al., 2017).

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Table 1: The percentage of births by C/S in some Arabic countries 2007-2014. (Abdel-Tawab, 2018).

The country	The rate%
Algeria	16
Bahrain	26
Egypt	52
Jordan	28
Iraq	22
Tunisia	27
Lebanon	23.2
Libya	NA
Qatar	20
Morocco	16
United Arab Emirates	24

Table 2: The percentage of births by C/S in some European countries 2008- 2011. (Mylonas & Friese, 2015).

The country	2008 (%)	2009 (%)	2010 (%)	2011 (%)
Albania	22.7	28.1	29.7	30
Belgium	19.5	19.3	19.9	NA
Germany	30.2	31.3	31.9	32.10
Finland	15.8	15	14.9	14.7
UK	23.2	23.7	23.8	24.1
Malta	30.1	28.8	31.2	33.5
Italy	39.1	39.1	38.8	NA
Spain	24.7	24.9	24.9	24.9
Ukraine	15.6	15.9	15.8	15.8
Austria	27.1	28.2	28.2	28.3
Poland	19.3	22.8	26	29.9

Research problem

The World Health Organization (WHO) established a global recommendation rate for caesarean sections (C/S): this recommendation is between 10 and 15 percent. There have been many global studies that have assessed C/S rates in different countries, with some countries reporting C/S rates that fall within the WHO's recommendation, while other countries are reporting much higher C/S rates than those suggested by the WHO. These studies have also noted that Libya does not have any reported data on the rate of C/S. For that reason, the objective of this study is to determine the rate of C/S in Tarhuna City, Libya

Objectives of the Study

1- To evaluate the rate of NVD and C/S across both the public and private sectors in Tarhuna City, Libya.
2- To evaluate the underlying non-medical causes behind the high rate of C/S and try to come up with solutions to reduce this problem.
3- To compare the rates of C/S and NVD between the public and private sectors within Tarhuna City.
4- To develop an action plan to assist in lowering the number of C/S in Tarhuna City.

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Significance of the Study:

It is significant to have a clear picture of the rate of C/S in Tarhuna City because no such data exists within Libya. In addition, identifying the non-medical variables that contribute to the high C/S rate will help to create a plan of action to reduce these rates.

Research Materials and Methods:

3-1The research community

The study has compiled a total of 1607 cases of births that took place in Tarhuna city for the months of March, April, May, July, August, September, and October in the year 2020. These cases were compiled by collating data from both the Government (public) and Private sector.

3-2 Survey (Doctor's Opinions on Study Results).

The survey was designed to gather Doctor's opinion in relation to study findings, Ten Doctors were invited to participate in this survey by answering (proposed to them in the questionnaire) several questions relating to their opinion on study findings (e.g. C/S rates) and probable explanations for why there have been such high rates of C/S and ability to reduce highest incidences of C/S.

3-3 Data Analysis.

The data was analyzed via Statistical Package for Social Sciences (SPSS) and presented by Excel.

Results

4.1. Number of cases of NVD in the public sector

The number of NVD in the public sector during the period of study is 255 cases.

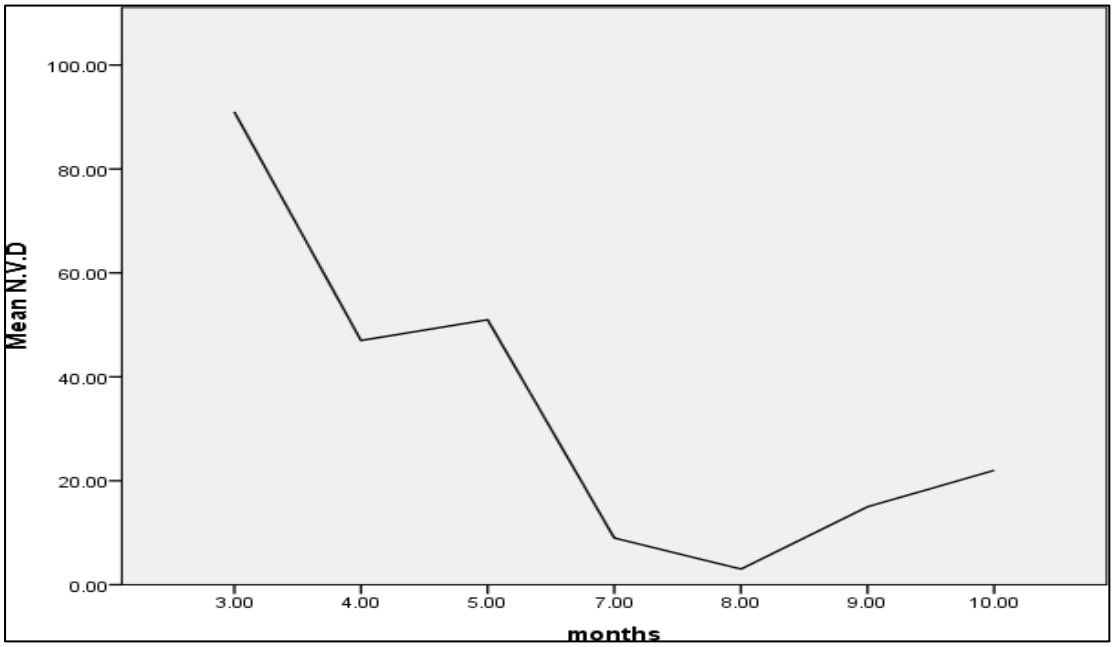

Figure 4-1: Graph representing distribution cases of NVD in the public sector.

4.2. Number of cases of NVD in the private sector

The total number of NVDs recorded in the private sector during the research period were 417.

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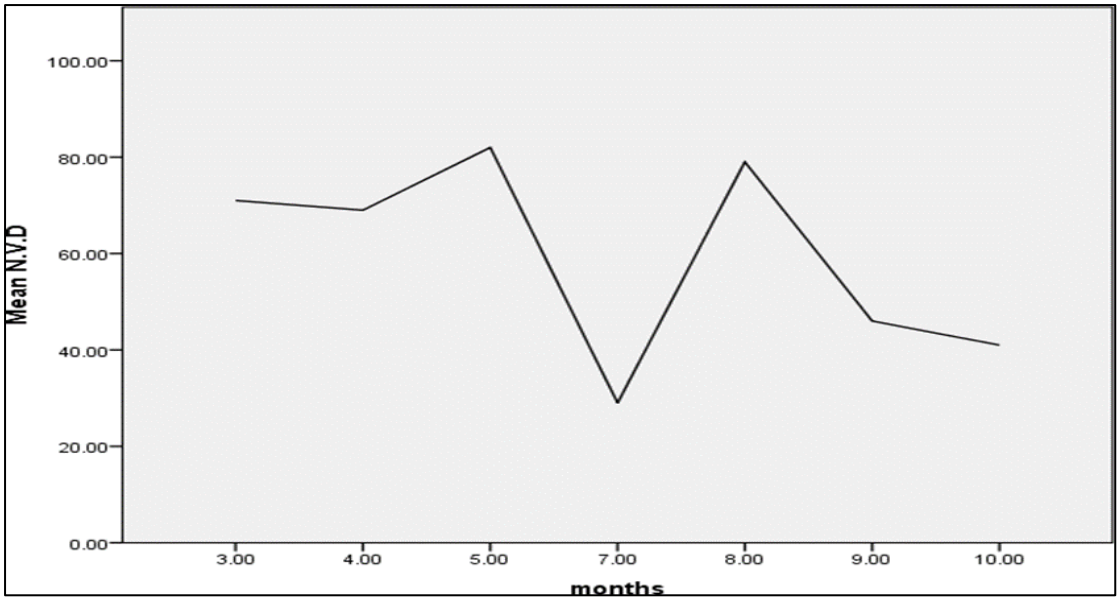

Figure 4-2: Graph representing distribution of NVD cases in the private sector.

4.3. Number of C/S in the public sector

The total number of C/S cases identified in the public sector were 315 cases.

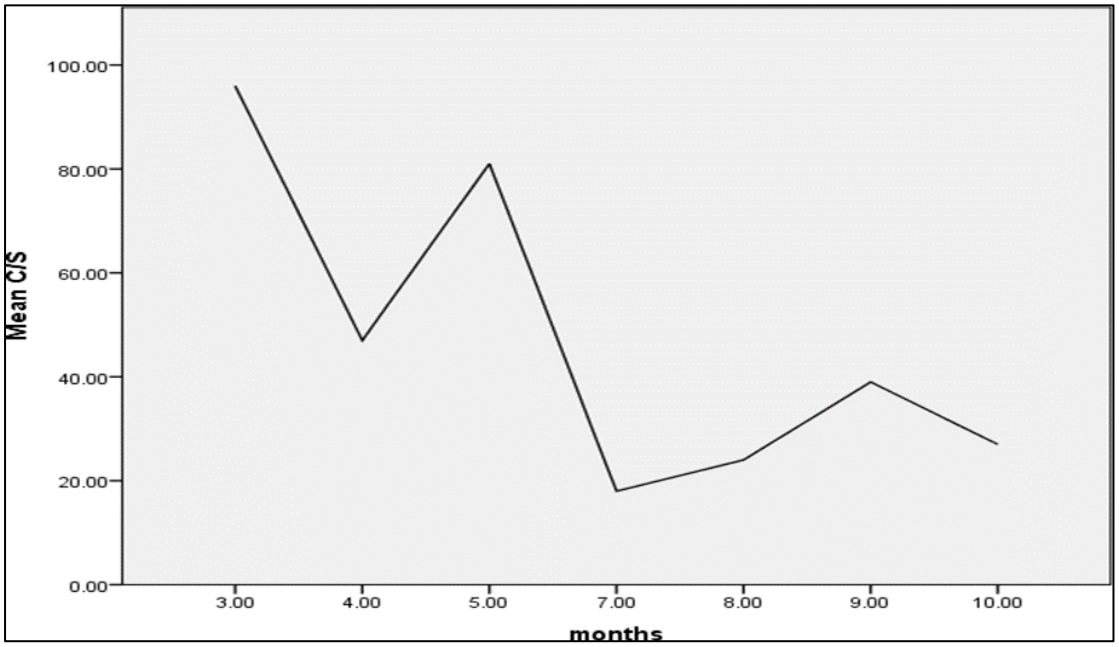

Figure 4-3: Graph representing the number of C/S cases in the public sector.

4.4 . Number of C/S cases in the private sector

The number of C/S cases in the private sector is 620 cases.

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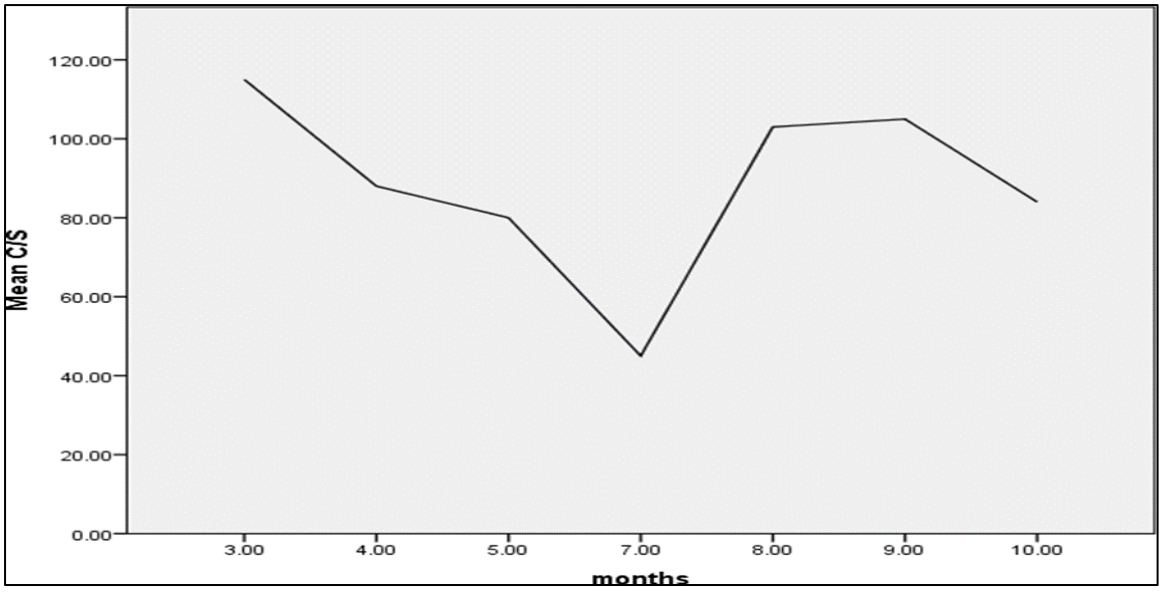

Figure 4-4: Graph representing distribution of C/S cases in the private sector

4.5. Percentage of NVD and C/S in the public sector.

As many as half of mothers receiving obstetric care in the public sector were delivered via cesarean section (C/S) (55.27%), while the other half delivered vaginally (NVD) (44.73%)

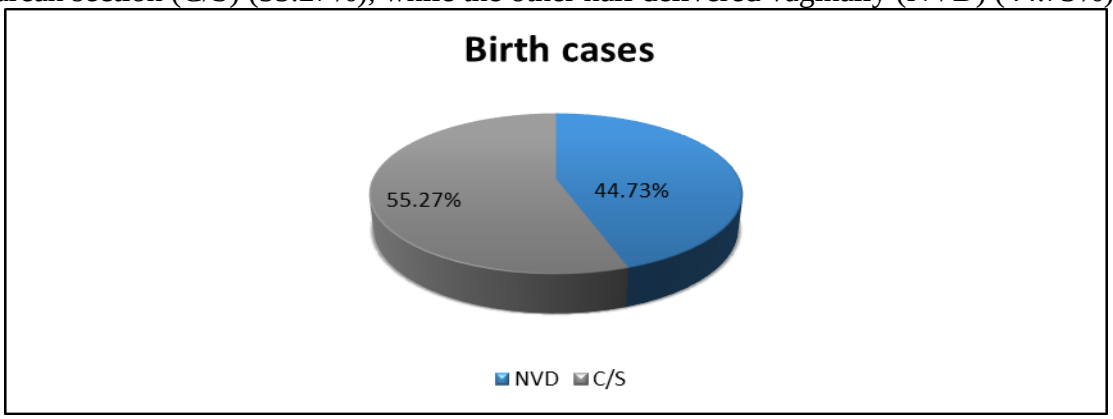

Figure 4-5: Figure representing the percentage of NVD and C/S in the public sector.

4.6. Percentage of NVD and C/S in the private sector.

The study indicated that in the private sector, cesarean delivery (C/S) accounted for 59.78% and vaginal delivery (NVD) accounted for 40.22% of all deliveries.

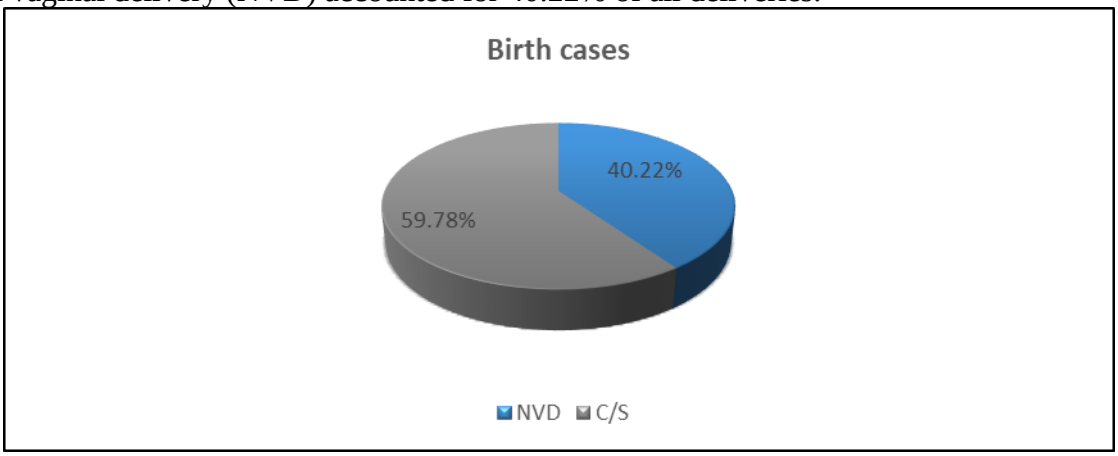

Figure 4-6: Figure representing the percentage of NVD and C/S in the private sector

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4.7. Percentage of doctors who think that the rate of C/S is high

Throughout this study, the 10 medical professionals indicated that they believe that the C/S rate is very high. This indicates that all medical professionals surveyed believe that the C/S rate is high in both sectors.

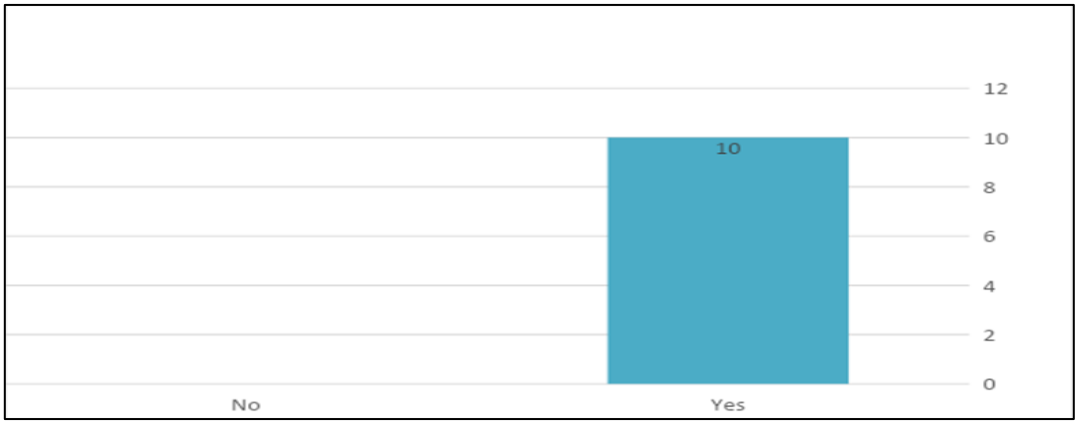

Figure 4-7: Graph representing Percentage of doctors who think that the rate of C/S is high.

4.8. Reasons behind the high percentage of C/S

Based on the opinions of the medical professionals surveyed, there are five (5) significant Non-Medical Factors causing a rise in C/S rates.

A) A mother requesting a C/S
B) A woman's lifestyle
C) An unstable status within the country
D) A profit motive on behalf of doctors and private hospitals.
E) The quality of medical professionals

4.9 A mother requesting a C/S

Two medical professionals indicated that this was the primary cause contributing to an increased rate of C/S. Other five medical professionals indicated that this is the secondary cause of increasing the C/S rate.

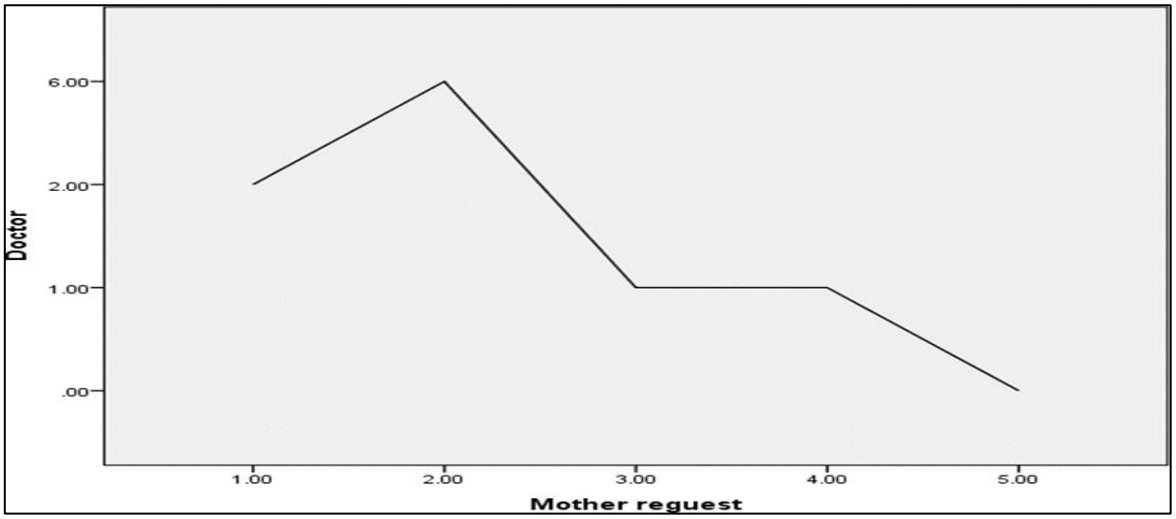

Figure4-8: Graph representing opinion of doctors about relation of mother request with increasing the percentage of C/S.

4.10. Life style of women

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When it comes to how women are living, the majority of doctors feel that women's lifestyles are either the first cause or the third highest cause of the high number of C/S

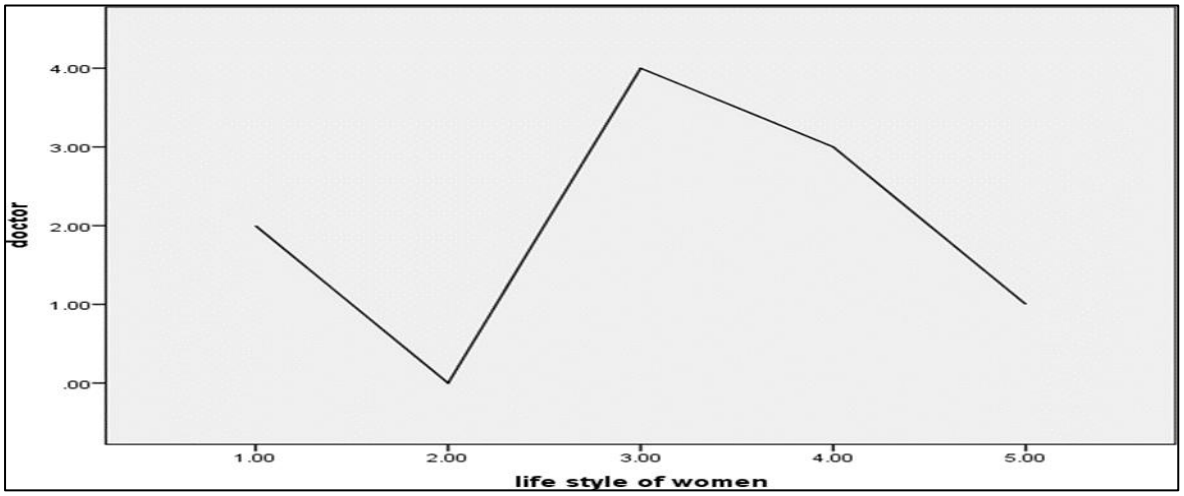

Figure 4-9: Graph representing opinion of doctors about relation of life style of women with increasing the percentage of C/S.

4.11. Unstable status of the country.

One physician believes that the reason for the high rate of C/S procedures in the country is due to the instability in the country. At the same time, three of his colleagues agree that this is the second-highest reason for this problem.

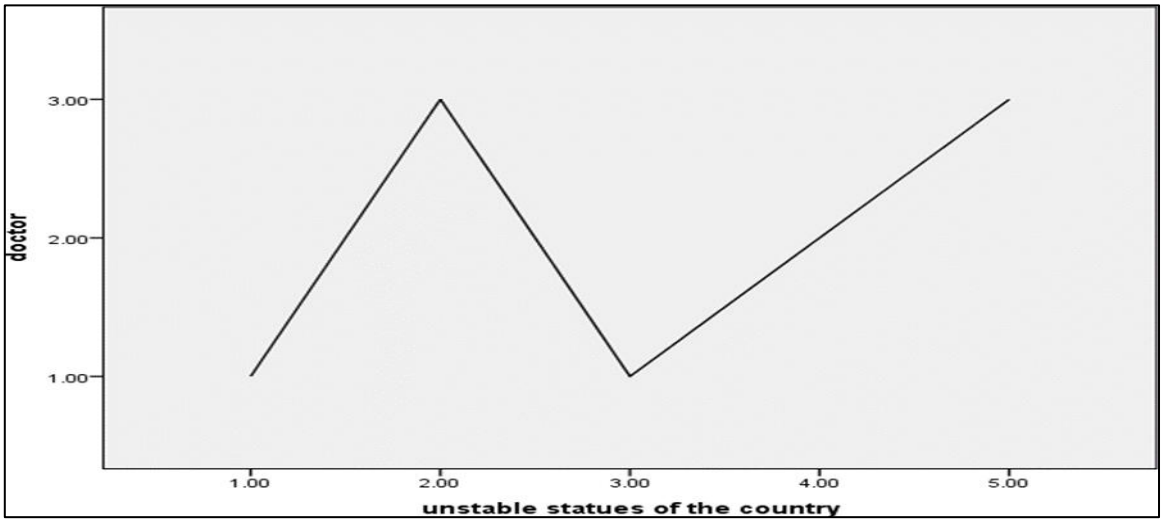

Figure 4-10: Graph representing opinion of doctors about relation of unstable status of the country with increasing the percentage of C/S.

4.12. Business of doctors

Four doctors believes that the business of doctors is the main reason behind the study results, while one doctor believes that it is the second cause.

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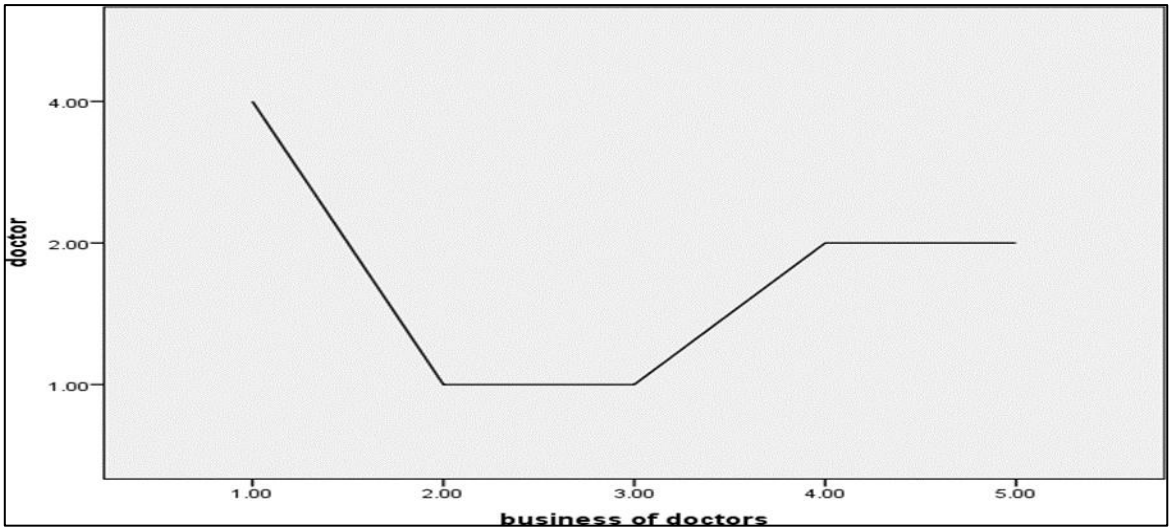

Figure 4-11: Graph representing opinion of doctors about relation of business doctors with increasing the percentage of C/S.

4.13. Quality of doctors

Only one doctor believes that the quality of doctors is the main reason behind results, while one doctor believes that it is the second cause.

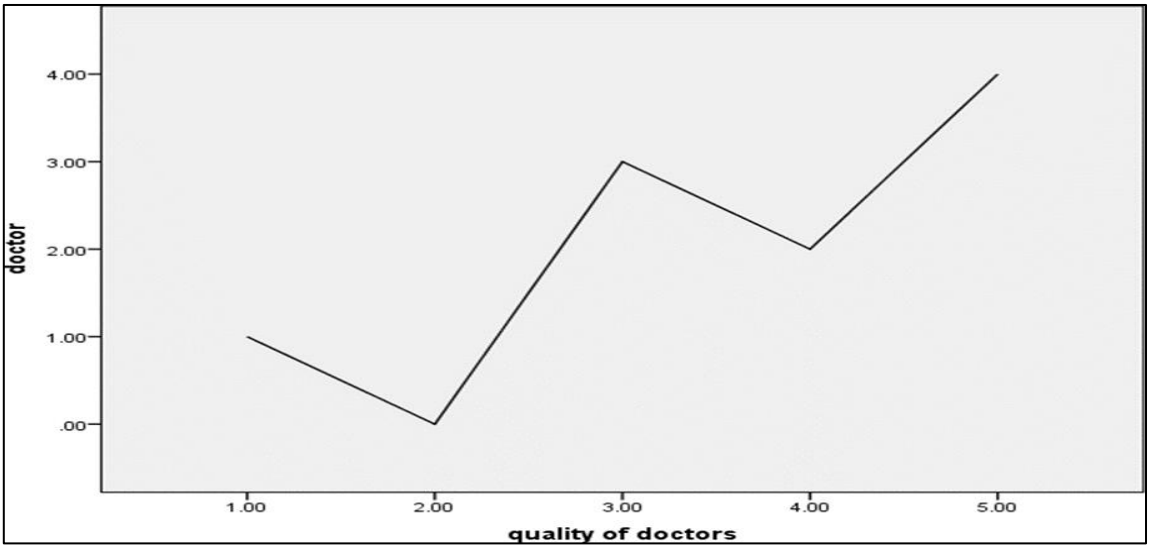

Figure 4-12: Graph representing opinion of doctors about relation of quality of doctors with increasing the percentage of C/S.

Solution of the high percentage of C/S in opinion of doctor

In addition to enhancing the overall security of the country; Developing physicians; Increasing the knowledge of expecting mothers; Developing and activating birthing centers; Improving the financial status of physicians.

Discussion

In Tahruna's Educational Hospital, 44.73% of births were classified as having taken place through normal vaginal delivery while 40.21% of those occurring in the private sector were classified in this manner. This shows that there is not much difference between the percentage of normal delivery within the public and private sectors. It should be noted, based on this study's findings, that the percentage of normal deliveries was low, relative to the WHO's

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recommended rates for normal vaginal deliveries which is currently between 85 and 90 percent of total births. The WHO's recommendation means that each and every birth should occur through vaginal delivery at a minimum of 85% - 90% of the total number of births, however, the findings of this study indicate that the rate of normal vaginal deliveries is far below those recommendations and that this is much lower than is found in most of the Arab countries (e.g., Algeria, Morocco) which had rates as high as 84% for vaginal delivery. Our study's findings show that the number of births through normal vagina deliveries continues to be low when compared with other studies from the region (e.g., Egypt = 48%) (Abdel-Tawab, 2018.

The results show that the percentage of C/S in the public sector (55.27%) is very similar to the C/S percentage in the private sector (59.79%). Both the private and public sectors have similar C/S percentages. The percentage of C/S is much higher than what has been recommended by the World Health Organization (WHO). WHO has indicated that 10-15% of births at maximum can be C/S. Our findings are also a long way from many other Arab countries, such as Tunisia, where C/S accounts for 27% of all births, and Qatar, where 20% of births are C/S (Abdel-Tawab, 2018). According to the ten doctors who have participated in the study, there are five main non-medical causes behind the high percentage of C/S. Four doctors believe that the business of doctors is the main reason behind these results, while one doctor believes that it is the second cause.

This makes business of doctors is the main cause of C/S. This study is in accordance with another study that has demonstrated that the financial motivator is a main cause in elevating the occurrence of C/S (Murray, 2000.Two of the doctors think that the mother request is the main cause of increasing the rate of C/S, while five doctors think that the mother request is the second cause behind increasing the rate of C/S. Similar studies have found that women prefer C/S than NVD (Qazi & Saqib, 2018).Two of the doctors have opinion that life style of women is the first cause of high percentage of C/S and four of them see that the life style of women is the third cause of high rates of C/S. This makes life style of women is the third cause of C/S.

In accordance with another study that has found that the modern life style increases the rates of C/S (Kirchengast & Hartmann, 2019). One doctor thinks that the unstable status of the country is the main reason, while 3 doctors recognize this cause as the second cause. The result means that the unstable status of country is the fourth important cause. The safety of the country is important in decreasing the rates of C/S since people cannot seek care at hospitals at any time especially at night time. Only one doctor believes that the quality of doctors is the main reason behind our results, while one doctor believes that it is the second cause. This result is the same result that has been found by another study where the training of doctors on NVD is critical to decrease the rates of C/S (Elnakib,2019.

Conclusion

From our data, we concluded that the highest number of C/S deliveries result from the physician's monetary motivation. All of the doctors agree that there are many personal, social, and economic factors that contribute to the high percentage of C/S and the high number of mothers requesting for a C/S. Some of the doctors believe that personal and environmental factors are the third factor in making a C/S decision while others believe that maternal request is the highest factor in determining whether a C/S will be performed or not. In summary, the major contributing factors for the high percentage of C/S are maternal request, second lifestyle, third unstable country, fourth doctor business factor, and lastly the quality and experience of the doctor. As stated above, the results indicate that there are many factors that influence the decision of whether or not to perform a C/S. The last two categories — doctor business and quality factors — are among the most important of the contributing factors of why mothers are requesting to have a C/S. Doctors are the only professionals who can make this decision for the mothers to have a C/S or a vaginal delivery.

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Recommendation

1Advising pregnant women to follow up with doctors since beginning of pregnancy.
2.Advising pregnant women to follow healthy life style.
3.Enhancing the financial situation of doctors.

Compliance with ethical standards

Disclosure of conflict of interest

The authors declare that they have no conflict of interest.

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