

Dedication

To all members of my family

To my best friends

To everyone love me.

Acknowledgments

*I convey my sincere thanks to my main supervisor **Dr. Asma Ibahim Ahmed Alamin** for her valuable advices. I would like to thank her for her insight support, guidance and patience.*

I would like to extend my deepest gratitude to Sudan University of Science and Technology which gave me this opportunity.

I also thank my family and everyone who helped me in a way or another during this study period for their invaluable assistance.

ABSTRACT

The aim of this study is estimation of fetal weight using ultrasonography, this will help in appropriate decision making in the management of the pregnant ladies

This prospective cross-sectional study was carried out at the Obstetrics and Gynecology Department of Khartoum North Teaching Hospital from September 2015 to April 2016. The data was collected from 60 ladies attending the delivery room in Khartoum North Teaching hospital. The material used was Ultrasound machine Mindray DP10 with 3.5 MHz convex probe, through trans-abdominal scan. The variables used were age, parity, and delivery mode, maternal weight at delivery and fetal weight and was analyzed using SPSS version 23.

The sample size was 60 pregnant women; all the women participated in the study (100%). More than half (53.3%) of the participants given birth by caesarian delivery, while (46.7%) given birth by normal vaginal delivery. Their mean age was (28.3 ± 6.48), and their median age (27.5). The mean weight (kg) was (69.79 ± 6.98), with a median (69.65 kg). The mean number of birth (parity) was (2.52 ± 2.13) child birth with a median of (2.0). In this study, the mean actual weight after delivery was ($3,069.00 \pm 508.093$) ranging between (2,230-4,240) grams. The mean ultra sound estimated fetal weight was ($3,121.83 \pm 555.452$) ranging between (2,210-4,140) grams. As observed from the table there is no much difference comparing the two means. Using *t*-test on mean ultrasonically calculated weight taken before birth of fetus and actual birth weight revealed no significant difference (*t* =

0.544, $P = 0.220$). There was an intermediate to strong linear relationship between actual fetal weight and ultra sound estimated fetal weight ($r= 0.64$).

In conclusion from the above findings estimation of fetal weight using ultrasound have important implication in management and assessment of medical condition of pregnant ladies instead of some difficulties in accessibility but however can be cost effective.

ملخص الاطروحة

الهدف من هذه الدراسة هو تقدير وزن الجنين باستخدام الموجات الصوتية ، وهذا يساعد في اتخاذ القرار المناسب في علاج ومتابعة السيدات الحوامل.

هذه كانت دراسة مقطعية بالمتابعة اجريت بقسم النساء والتوليد مستشفى بحري التعليمي في الفتره من سبتمبر 2015 الي ابريل 2016. تم جمع البيانات من 60 سيدة حامل حضرت للولادة بمستشفى بحري، تم جمع القياسات باستخدام جهاز الموجات ميندراي دي بي 10 مع متحقق 3.5 ميجاهيرتز المحذب عن طريق البطن تم الفحص. متغيرات البحث كانت عمر السيدة الحامل، عدد الولادات، نوع الولادة، وزن الام و الجنين قبل الولادة مباشرة ووزن الجنين بعد الولادة، تم تحليل البيانات باستخدام برنامج التحليل الاحصائي النسخة 23

حجم العينة كان 60 سيدة حامل ، شارك كلهن في الدراسة 100%. اكثر من النصف 53,3 ولدن بعملية قيصرية بينما 46,7 ولدن ولادة طبيعية. متوسط اعمارهن كان 28,3 والوسيط 27,5. وقد كان متوسط وزن الامهات 69,7 بوسيط 69,6 وقد كان متوسط عدد الولادات 2,5 والوسيط قد كان 2. في هذه الدراسة كان متوسط الوزن الحقيقي للمواليد بعد الولادة 3,069 جرام في مدي 2230 الي 4140 جرام. قد كان متوسط وزن الاجنة بالموجات 3121 جرام في مدي 2210 الي 4140 جرام. من الملاحظ لا يوجد فرق مهم احصائيا بين الوسيطين قيمة بي = 0,220. كان هناك علاقة متوسطة الي قوية خطية توافقية بين وزن الجنين بالموجات و الوزن الفعلي بعد الولادة (ر 0,64).

خلاصة الدراسة من النتائج اعلاه انه في يمكن الاستفادة والاعتماد علي وزن الجنين بالموجات الصوتية في تقدير الحالة الطبية للسيدة الحامل بالرغم من احيانا صعوبة الوصول للموجات الصوتية الا انها غالبا قيمتها في المتناول.

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LIST OF ABBREVIATION

ABBREVIATION	STAND FOR:
ABW	Adequate Birth Weight
APE	Absolute Percent Error
EFW	Estimated Fetal Weight
ELBW	Extremely Low Birth Weight
IBW	Inadequate Or Insufficient Birth Weight
IUGR	Intrauterine Growth Restriction
LBW	Low Birth Weight
NCDs	Non-Communicable Diseases
NM	Neonatal Mortality
PMN	Postnatal Mortality
SPSS	Statistical Package For Social Science
VLBW	Very Low Birth Weight
WHO	World Health Organization