

My Contributions To The Practice Of Obstetrics & Gynaecology

C. S. Dawn

Dr. C. S. Dawn Indian College Of Maternal & Child Health. Calcutta



Dr. C. S. Dawn

Summary

My contributions to the practice of Obstetrics & Gynaecology are :

1. Standardisation of RCH Practice by DAWN RULE OF TEN. Care and education for all RCH Care providers and users.
2. Application of Rule of Ten in Mass RCH by pictorial calendar (in regional language) - bed room programme. This pictorial calendar education to all pregnant women (around 50% illiterate women in India) improved acceptance of RCH Care and eliminated mortality in 31000 deliveries.
3. Dawn Hypothesis on preeclampsia when practised could halt preeclampsia at mild stage and downstage the disease.
4. Antenatal foetal weight determination by pelvimeter (AFWD) can predict birth weight at 90% accuracy level.
5. Dawn Uterine Maturity Score (DUMS) can identify ripe gravid uterus at term ready for induction of labour.
6. Practice of pickup of fallopian tubes in minilap tubectomy is easier than forking out fallopian tubes by fingers for tubectomy.

All the procedures are clinically developed and clinically tested by the author during last 40 years.

Even in the era of high technology care in medical practice,

Obstetric and Gynaecological care relies mostly on clinical skill. The author attempted to improve the clinical practice on the following topics.

Material & Method.

- I. **Dawn Rule Of Ten Care And Education** for Standardisation of practice on Reproductive & Child Health (RCH).

This was first formulated by the author on 1981 while working as Professor of Obstetrics & Gynaecology at Calcutta Medical College Hospital. Rules of Ten are:

1. Ten times antenatal checkup for High Risk Pregnancy and five times checkup for normal pregnancy on 10th, 18th, 24th, 30th and 36th week. High Risk Pregnancies are referred to obstetrician and MTP is done by 10th week for unplanned pregnancy.
2. Ten Kg Mother's weight gain during pregnancy by taking home resource food to get 3 Kg baby.
3. Ten hours rest and sleep (2 hours afternoon rest and 8 hours night sleep) to grow the baby.
4. Ten gram percent Hb minimal to build on by taking one capsule iron-folic acid a day from 20th week till 3 months of breast feeding. Other Lab.tests done are ABO, Rh blood group, VDRL, postmeal blood glucose and Urine analysis.
5. By ten months Inj. tetanus vaccine is given to pregnant women — 1st dose on 18th week and second dose on 24th week. (Nonimmunised husband is also given 2 doses tet. vac. along with wife).
6. Ten-twelve hours labour management in first pregnancy and five-six hours in second pregnancy by trained birth attendant in clean warm room.
7. Ten Apgar Score crying baby is delivered in warm room.
8. By ten weeks, spacing contraceptive (Copper devices, oral contraceptives, inj. Depot provera) is given to women or condom to husband for 5 years delay for second child birth. Tubectomy or vasectomy is done following second child birth.
9. Ten month's breast feeding and solid food from 4th month to baby.

10. By ten months, infant immunization is completed — Inj. BCG (1st month), oral polio and inj. triple antigen — 3 doses each on 2nd, 3rd, 4th month and inj. Measles on 10th month.

Rule of Ten is practised by author in Eden Hospital, Calcutta from 1981-1984 and then in private clinic from 1985 to 1999. This was first published in 1987 (DAWN, 1987); since 1996 pictorial calendar in regional language is handed over to each pregnant woman to display it at her bedroom for education to all.

H. Mass RCH By Dawn Rule Of Ten Pictorial Calendar-Bed Room Programme was practised in 50 ICMCH PG training hospital centres throughout India and 3 district hospital projects for this programme (Tirunelveli, T.N. by Dr. Rajam Authilingom, Udipi District, Karnataka by Dr. A. Padma Rao and Agra District by Dr. Barun Sarkar, Dr. Naren Malhotra, Dr. Anupam Gupta).

Photographs (I and II)



Pregnant woman on first check up on Rule of Ten is educated at clinic on DAWN Rule of Ten Pictorial Calendar in regional language (9 Indian Languages prepared) and a calendar is handed over to her to display it at her bed room for education to husband and relations. Around 50% Indian women are illiterate. Once she gets calendar education, she comes for further antenatal checkups and delivery at low cost hospital and accept contraception for 1-2 child family, breast feeding and infant immunization. Pregnant woman on getting benefit of this programme brings her friends to the clinic as well. This Mass RCH Programme has now run for 2 years (1998-1999).

III. Practice On Dawn Hypothesis On Preeclamsia.

The hypothesis was given in 1987 as :

1. Familial hypertensive diathesis
2. Gestational vasoconstrictor (Angiotensin II)
3. Dietary salt overloading
4. Stress interaction.

Pregnant woman at first 10th week checkup is identified as preeclampsia-prone from family history of hypertension (checking B.P. of parents), salt craziness, sleeplessness and high emotion. She is put on DAWN Rule of Ten Care by 10 hours rest and sleep (2 hours afternoon and 8 hours night sleep) on tab. Diazepam 5-10 mg or lorazepam 1 or 2 mg if necessary. Her salt overloading and also that of water are controlled to daily average of 10gm salt in food and 2.5 litres water intake. Her blood pressure is carefully monitored in the clinic and by family physician in between to halt it at 140/90 — 150/100 mmHg. Her Oedema if it comes remains mild. Thus the disease is halted at mild preeclampsia. This is downstaging of preeclampsia from eclampsia (DAWN, 1998).

IV. Antenatal Foetal Weight Determination By Pelvimeter. This is a clinical procedure first innovated in 1981 (DAWN 1987) working on the principle of gravid uterus image Volume by ultrasound. By pelvimeter (forgotten instrument) two diameters of gravid uterus are serially measured from 28-42nd week of pregnancy. Measures are vertical diameter in cm. (L) from superior border of symphysis pubis to fundus and transverse

diameter (T) between uterine cornu in cm. Double abdominal wall thickness is measured by pelvimeter for correction of measures of L and T if double abdominal wall thickness is over 3 cm. Finally corrected measures of L and T are fed in integral calculus worked mathematical formula $L \times (1/2 T) \times 1.44$. Foetal weight in gram is calculated with an error of $\pm 10\%$.

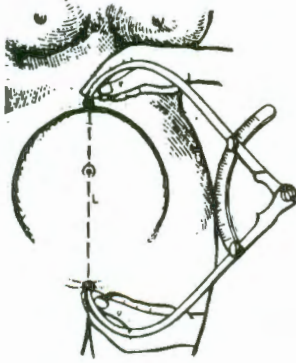


Fig. 1

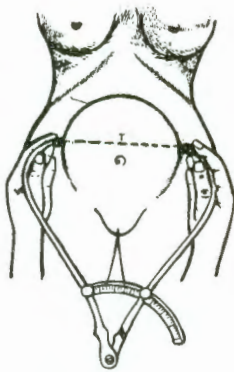


Fig.2



Fig. 3

V. Dawn Uterine Maturity Score (DUMs). This was developed in 1982 (Dawn, 1987) and is useful for

decision "When to deliver" a high risk pregnancy at Term (Overdated, PIH), along with Bishop's cervical score. The DUMS is based on three clinical criteria — 1. Uterine spherical fundal shape change 2. Lessening liquor volume as serially tested clinically 3. Uterine hyperactivity (enhanced Braxton Hicks sign). Working on above, score can be: Unripe (0-2), ripe (3-4) and overripe (4-6). When DUMS comes ripe, Bishop's cervical score also improves in most cases. Herein induction of labour becomes successful in majority. Only on Bishop's score, induction of labour becomes less successful.

VI. Picking Of Fallopian Tube In Interval Minilap Tubectomy. On suprapubic 2.5 cm laparotomy, 2.5 cm broad blade of abdominal retractor is introduced to retract lower end of the abdominal wound, left index finger hooks up the ovarian ligament and medial most part of fallopian tube on pressing against blade of abdominal retractor till fallopian tube medial end is brought at abdominal wound wherefrom the latter is caught by small artery forceps. This is repeated on right side by hooking by right index finger. Uterine elevator is not used. The procedure was first introduced in 1992 (DAWN, 1992).

VII. Author Of Dawn Textbook Of Obstetrics & Neonatology And Dawn Textbook of Gynaecology & Contraceptive both first published in 1958 and repeatedly revised updated every 2-3 years till 2000 when 14th Edition of both were published. Thousands of medical students qualified on reading these books. Obstetrics or Gynaecology Practitioners practised by going through these books. The books always gave standard evidence based on international current practice with emphasis on practice in developing countries.

Results.

I DAWN Rule of Ten Care and Education in 1250 primigravid women in author's private clinic during last 13 years show maternal weight gain 10 ± 1.90 kg (9-14 kg) and lowest High risk Pregnancy of 16% from national figure of 40%. There was no anaemia below 10 gm%, Preeclampsia stage I 104 (8.3%), stage II 13 (1.2%), eclampsia nil, IUGR, preterm 6%, maternal mortality nil, perinatal mortality 15/1000 total births. Breast feeding

solely 40%, partial 60%, contraception 85% for 1-2 child family, infant immunization 100% and RCH education 100%.

II Mass DAWN Rule of Ten Pictorial Calendar- bed room programme shows that in 31000 delivery (primi and multi) elimination in maternal death. High Risk Pregnancy 6200 (20%), 5% mild anaemia, 6% Preeclampsia, 9% Preterm, IUGR, eclampsia 1 in 5000, Perinatal death 20/1000.

III Result on practice working on DAWN Hypothesis on preeclampsia. In private series out of 1250 primigravidae, 104 (8.3%) developed stage I and 13 (1.2%) stage II preeclampsia but no eclampsia. This is downstaging of preeclampsia to stage I (DAWN, 1998).

IV Antenatal foetal weight determination (AFWD). Its accuracy depends on accurate measure of L and T measures. Working on 10 years from 1985 to 1994 in 610 primigravid patients, foetal weight prediction was accurate in 549 (90%) level. Comparison of this clinical procedure with USG foetal weight estimate shows better results in AFWD (Bohre, 1999). The procedure is especially useful to decide whether foetal weight is of low birth weight below 2.5 kg before delivery.

V DAWN Uterine Maturity Score (DUMS) is tested in 260 primigravid women with postdated pregnancy during 1985-1999. In unripe score in postdated pregnancy on a few days waiting, score gained to ripeness when induction of labour was done with 90% success.

VI Tubal pickup in minilap tubectomy. There is no method failure in this procedure in 250 cases by author during 1987 to 1999. ICMCH PG trainees are taught this procedure in many centres and it is effectively practised.

Discussion.

There is no standard number of antenatal checkups recommended for international practice. Yoong and Chard (1996) reported legally recommended antenatal checkups in European Countries varying from 13 (UK) to 5 (Switzerland). Indian practice follows that in UK. In all medical colleges in India thirteen times antenatal checkups are taught. In Topic I author could show

optimum beneficial antenatal checkups are 5 for normal pregnancy comparing results on 3-5 checkups. Ten times checkups are needed for High Risk Pregnancy.

In topic II DAWN Hypothesis on preeclampsia could be proved by careful observation on 117 primigravidae during 10 years. It is now a fact that mild preeclampsia (stage I) cannot be prevented since it is hypertension heredity based. However downstaging of the disease is possible.

Acknowledgement

All the procedures were developed during 1961-1984 while the author was working as Asstt. Professor — Professor at R.G.Kar Medical College Hospital and Eden Hospital, Calcutta. I highly appreciate the dedicated work of all my assistants in the hospital. I am grateful to 50 teachers from ICMCH PG training hospital centres from all over India for working on MASS RCH Programme.

Sincere thanks go to Dr. A. Ghosh, DSC, Retired Professor, Indian Statistical Institute, Calcutta who innovated the mathematical formula for antenatal foetal weight determination by pelvimeter. Subsequently for over last 10 years the author personally tested the validity of all innovations by meticulously keeping record of all cases where all the procedures were practised.

Reference:

1. Bohre, J. K. Antenatal foetal weight determination by DAWN's formula. Indian progress in Reproductive & child health, NARCHI, Calcutta 12th Vol, 144, 1999.
2. DAWN C. S. Downstaging of preeclampsia. The Obst and Gyn of India, 48: 25, 1998.
3. DAWN C. S. Textbook of Obstetrics & Neonatology, 10th Ed, DAWN BOOKS, Calcutta, page, 83, 299, 1987.
4. DAWN C. S. Textbook of Gynaecology & Contraception 11th Edition, Ed, DAWN BOOKS, Calcutta, 595, 1992.
5. Young A, Chard T, Effectiveness of antenatal Care, Progress in Obstetrics & Gynaecology Ed, By John Studd, Churchill, Livingston, Vol 12, 11, 1996.