Objectives: The Ethiopian government decided to share the task of provision of insertion and removal of contraceptive implants and intra-uterine devises with community health workers to tackle challenges related to access. The effectiveness and safety were not ascertained.

This study was done to evaluate effectiveness of sharing the task of provision of compressive long acting reversible contraceptives (LARC) with community health workers and determine the safety of the task sharing.

Method: A mixed methods approach where outcomes were ascertained by assessing the status of a randomly selected sample of users of LARC by the community health workers and documenting their experience of care was done. All 66 health posts which are located in the 4 major regions of Ethiopia were included in the study.

The sample size was determined to be 702, and the number per health post was decided using the proportion to population formula. Each mother was interviewed at home by independent data collectors. Descriptive statistics followed by bi-variable and multi-variable analysis was done using STATA version 14.

Results: Most (96%) of users are from rural areas and 90% have a good level of knowledge of the pregnancy prevention duration of the IUCD and Implants. Almost all (97%) of the users said they will recommend the service to their friends. LARC users at health post jumped to 9% from 2%.

The prevalence of removal is 5.4% (37/687). There were 2 (0.3%) pregnancies identified and expulsion was reported only by 1 (0.1%) user.

More than 90% of the users walked only for less than 20 minutes to reach the facility and those who claimed to have spent money, spent less than 10 birr (o.36 US cents) to reach the facility.

Conclusions: Discontinuation, failure and complications are lower than reports which come from studies which looked at outcomes of LARC given by other providers. There were no safety related concerns identified. Users were also knowledgeable. Access was very good and the method mix has improved towards LARC.

Considering large scale sharing of the task of provision of LARC by community health workers is worth considering but it has to be paired with more robust study designs with comparison.

FCS470 | METABOLIC SYNDROME IN WOMEN WITH POLYCYSTIC OVARIAN SYNDROME: AN INDIAN PROSPECTIVE

THEME: AB 05 REPRODUCTIVE MEDICINE/SUB-THEME: AB 5.1 REPRODUCTIVE ENDOCRINOLOGY

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Objectives: Metabolic syndrome is cluster of endocrine disturbances including insulin resistance, dyslipidaemia, obesity and hypertension. It is highly prevalent in polycystic ovarian syndrome. The objectives were to find out the prevalence of metabolic syndrome in women with polycystic ovarian syndrome.

Method: A prospective cross- sectional study was planned on women with polycystic ovary syndrome who attended Gynaec out patient Department at MK Nursing Home, Chennai, Tamil Nadu, India from January 2016 to February 2018. Total of 104 women with PCOS were enrolled after the diagnosis of PCOS based on Rotterdam criteria 2013. Metabolic syndrome diagnosed as per modified national cholesterol education program's adult treatment panel III. The data were analysed statistically.

Results: Out of 104 patients with PCOS 34.7% had metabolic syndrome. The prevalence of individual components of the metabolic syndrome among PCOS patients were waist circumference ≥78 cm (75%). High Density lipoprotein (HDL-C) less than in 65 (62.25%), triglycerids ≥150 mg/dl in 26(25), blood pressure ≥130/85 mmHg in 6 (5.7%) and fasting plasma glucose ≥100 mg/dl in 26 (25%). Mean BMI in the study group was 26.19 kg/m^2. The prevalence metabolic syndrome was found to increase with body mass index. Waist circumference and dyslipidemia were common than impaired fasting glucose among PCOS.

Conclusions: Metabolic syndrome was seen in young women with PCOS cases in our study. This highlights the need for comprehence screening and educational programs for women with PCOS beginning at an early age to reduce the long term risk of diabetes and cardiovascular diseas. As there were abnormalities in waist circumferences and dyslipidemia, so it can be taken as a predictors of metabolic syndrome in women with PCOS.

FCS471 | MONITORING SLEEP PATTERNS CHANGE ACROSS THE MENSTRUAL CYCLE USING WERABLE SENSORS

THEME: AB 05 REPRODUCTIVE MEDICINE/SUB-THEME: AB 5.1 REPRODUCTIVE ENDOCRINOLOGY

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Objectives: Recent advances in wearable sensor technology allow for amassing unprecedentedly detailed physiological profiles for large numbers of individuals for long periods of time with minimal invasiveness and cost. The major use of wearables to date has been to study different effects of activity on health. In this study, we evaluate the use of these devices, with reference to clinical measurements, in assessing the association of sleep patterns and quality with the menstrual cycle and its phases.

Method: Healthy women, with self-reported regular cycles (23<cycle length<36), aged 18–42) were recruited for a prospective observational study. Participants wore the Ava bracelet daily for up to one year. Based on the biophysical parameters recorded by the bracelet, sleep and its phases were determined (deep-sleep=N2+N3 from AASM). Ovulation day was estimated using a home LH-urine test.

Mixed effects models were used to assess the changes of the physiological parameters between menstrual phases (with menses as the reference phase).

Results: We recorded 541 cycles from 181 women. Total sleep time did not change across the phases of the menstrual cycle. However, deep sleep lasted significantly longer in the follicular and early luteal phases, and shorter around menstruation. Women also tended to wake up more often during the luteal phase. Stress, age, and coffee or meals before sleep were all negatively associated with total sleep time. While alcohol and long exercising correlated with longer sleep. Intercourse, ethnicity, and BMI showed no correlation with total sleep duration. Finally, deep sleep was negatively associated with meals and alcohol.

Conclusions: In this study, we demonstrated the correlation between sleep patterns and the phases of the menstrual cycle. First, simple behavioral and nutritional changes could allow women to sleep better for longer. Second, we were able to reproduce correlations earlier reported in the literature in clinical settings using wearable technology in ambulatory setting. This opens the door for using wearables in large scale population studies were sleep and its quality are of great interest, such as in pregnancies (less sleep is associated with premature delivery) or (pre)-menopause.

FCS472 | MYO-INOSITOL AS A SAFE AND ALTERNATIVE APPROACH IN THE TREATMENT OF INFERTILE PCOS WOMEN

THEME: AB 05 REPRODUCTIVE MEDICINE/SUB-THEME: AB 5.1 REPRODUCTIVE ENDOCRINOLOGY

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Objectives: The use of 2×2000 mg myo-inositol+2×200 µg folic acid per day is a safe and promising tool in the effective improvement of symptoms and infertility for patients with a polycystic ovary syndrome (PCOS). In addition, polycystic ovarian syndrome (PCOS) is one of the pathological factors involved in the failure of in vitro fertilization (IvF). Typically, PCOS patients suffer of poor quality oocytes.

Method: In an open, prospective, non-blinded, non-comparative observational study, 3602 infertile women used myo-inositol and folic acid between 2 and 3 months in a dosage of 2×2000 mg myo-inositol+2×200 µg folic acid per day.

In a subgroup of 32 patients, hormonal values for testosterone, free testosterone and progesterone were analyzed before and after 12 weeks of treatment. The mean time of use was 10.2 weeks. For statistically analyses a student`s t-test was performed.

Results: Seventy percent (70%) of the women had a restored ovulation, and 545 pregnancies were observed. This means a pregnancy rate of 15.1% of all the myo-inositol and folic acid users. In 19 cases a concomitant medication with clomiphene or dexamethasone was used. One twin pregnancy was documented. Testosterone levels changed from 96.6 ng/ml to 43.3 ng/ml and progesterone from 2.1 ng/ml to 12.3 ng/ml in the mean after 12 weeks of treatment ($p<0.05$) Students t-test. No relevant side effects were present among the patients.

Conclusions: Myo-inositol has proven to be a new treatment option for patients with PCOS and infertility. The achieved pregnancy rates are at least in an equivalent or even superior range than those reported using metformin as an insulin sensitizer. No moderate to severe side effects were observed when myo-Inositol was used at a dosage of 4000 mg per day. In addition, our evidence suggests that a myo-Inositol therapy in women with PCOS results in better fertilization rates and a clear trend to a better embryo quality.

FCS473 | MYO-INOSITOL AS STANDARD TREATMENT FOR PCOS

THEME: AB 05 REPRODUCTIVE MEDICINE/SUB-THEME: AB 5.1 REPRODUCTIVE ENDOCRINOLOGY

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Objectives: Several recent reports show the positive effect of myo-inositol in patients with PCOS. We wanted to testify this in a Danish cohort.

Method: In a prospective observational case series, 51 PCOS patients of childbearing age with oligo-amenorrhea and subfertility were enrolled at 2 different gynecological outpatient private practice units in Copenhagen, Denmark. Myo-inositol combined with folic acid (Inofolic) 2 g twice a day was self administered by patients. After a period of 3 months, ovulatory activity was monitored with ultra-sound, number of spontaneous menstrual cycles and pregnancies were noted. Results were evaluated by the expression of relative probabilities.

Results: Five patients were lost to follow up; two did not start Inofolic and one patient stopped after a couple of days due to discomfort. Out of 43 patients who took Inofolic regularly, 27 (62%) had 1 or more spontaneous menstruations, 10 (23%) became pregnant. Six (14%) patients continued to have amenorrhea, however, one of them showed signs of ovulation on ultrasound at her 3 month follow up visit. About 85% of PCOS patients who regularly took Myo-inositol 2 g twice daily got either spontaneous menstruation or became pregnant within 3 months of the treatment.

Conclusions: This case series observational study suggests that the odds of getting either spontaneous menstruation or becoming pregnant within 3 months of regular intake of Myo-inositol 2 g twice a day are 6 times higher as compared to remaining in amenorrhea. Our findings correlate to previous studies and we suggest that Myo-inositol supplement could be included as a standard supplementary treatment for all PCOS patients.