

Round table discussion on “Rational Use of Drugs”

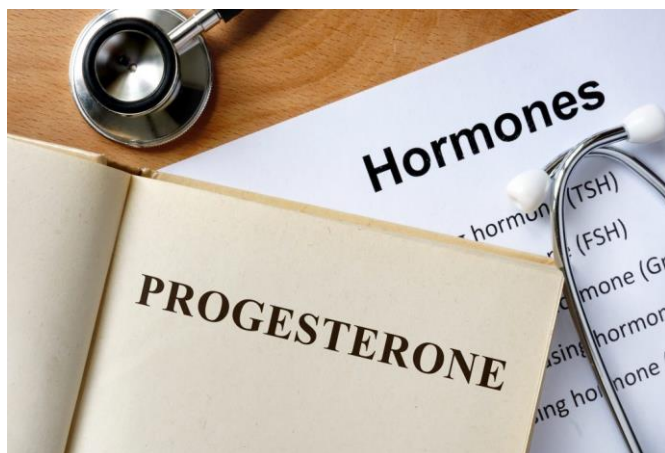
A round table discussion on the ‘Rational Use of Drugs’ was organized by the School of Pharmacy, Brac University on September 04, 2022 at GDLN (Global Development Learning Network) Center, BRAC University. The event was chaired by Professor Dr. Eva Rahman Kabir, Dean, School of Pharmacy, BRAC University, and conducted by Dr. Sharmin Neelotpol and Dr. Mesbah Talukdar, Associate Professors of the school. Distinguished experts, namely Mr. Mohammad Mozammel Hossain, Director, DGDA; Dr. Md. Akter Hossain, Deputy Director and President, National PV Center, DGDA; Dr. Raihan Rabbani, Senior Consultant, ICU, Square Hospital; Dr. Nazimul Islam, Deputy Director, Division of Hospital Services BIRDEM; Dr. Mohammad Afroz Jalil, Country Director, Roche Bangladesh Limited; Dr. Riad Mamun Prodhani, Managing Director & Country President, Novartis (Bangladesh) Ltd.; Dr. Faisal Rahman, Chief Operating Officer, Praava Health; Professor Dr. Aparna Islam, Biotechnology Program, School of Data & Sciences, BRAC University; Mr. Jahid Hasan, Square Hospital Ltd; Ms. Tanzina Islam, Pharmacist, Evercare Hospital Dhaka; and Mr. Omar Hasan, Pharmacist, Asgar Ali Hospital, participated in the discussion.

In the two-hour long discussion, emphasis was given on how rational use of drugs can be ensured in Bangladesh. Several causes of the irrational use of drugs were identified and how healthcare professionals can come together to solve these problems were discussed. The discussion further highlighted the possible solutions to these problems, one of which may be the awareness in the general population. Stakeholders involved in the healthcare system, starting from the manufacturing of medicines till the end users, will need to fulfill their responsibilities diligently. Collaboration between hospitals, pharmaceutical industries and academia was also highlighted.

Another issue identified is the absence of universal health insurance coverage and inadequate access to essential drugs, leading to self-medication and several health problems including misuse of over-the-counter (OTC) medication, and concurrent use of several medications. To overcome this situation diligent monitoring is required. Irrational use of medicines is a major global health challenge and thus requires holistic strategies to ensure the rational use of drugs.

Written by: School of Pharmacy

Progesterone Therapy For PCOS



PCOS stands for Polycystic Ovary Syndrome. It begins through the dysfunction of the brain mainly in the hypothalamus which is the cause of ovarian hydrogen excess. It is caused due to low grade inflammation, heredity, excess androgen, excess insulin etc. It is seen that 5-10% of women between 15-44 years are prone to this disease. Among the different types of treatment of PCOS, cyclic progesterone therapy is the most advanced one. This process can be done by regular withdrawal

bleeds which help to prevent endometrial hyperplasia, atypia, and endometrial cancer. Progesterone derived from progesterone therapy helps to compete for the enzyme 5 alpha reductase, reduces dihydrotestosterone which helps to reduce acne, hirsutism and androgenic alopecia. It also helps to increase metabolic rate which helps in weight loss. Besides, unlike the side effects, it has many benefits on mood and sleep. Besides, it helps to reduce breast cancer.

The best time to take oral progesterone is during bedtime. If taken in a day it might lead to depression. To start taking the dose of progesterone, it needs to be taken 2 weeks off and 2 weeks on until regular ovulation can be established.

Although PCOS has complications like infertility, depression, abnormal uterine bleeding, cancer of uterine lining, type 2 diabetes, metabolic syndrome, it is the safest treatment of PCOS. Moreover, it can be combined with other treatments like metformin, inositol, and spironolactone.

Written by: Mahreen Islam Ima (ID: 20146054)

Drug Safety and Management in Lactation



Almost every drug, to some level, moves into breast milk. Drugs transfer to the milk by diffusion, active transport or apocrine secretion where they remain free or bound to fat globules surrounded by lipoprotein or protein coating. Amount of drug transferred to breast milk can be calculated by finding maternal milk to plasma concentration ratio (M/P) using Henderson-Hasselbalch equation. Hardly 1-2% of maternal dose can reach breast milk crossing a series of structural barriers: capillary wall, interstitial fluid, mammary cell basal lamina and plasma membrane. Thereby, undetectable or

less toxic drug concentration is found in breast milk than in plasma. However, in case of renal dysfunction the concentration can increase.

Factors affecting drug concentration include: drug size, dosage, ionization, solubility, polarity, pH, maternal plasma concentration and protein binding. To elaborate, the highly protein bound drugs, poorly absorbed hydrophilic drugs or drugs undergoing high first pass metabolism are often less problematic during lactation since they are quite less exposed to breast milk. Moreover, compared to systemically absorbed drugs, topical preparations are less risky. In contrast, lipid soluble drugs or ionizing weakly basic drugs transfer to milk more rapidly. All these facts are needed to be considered prior to drug delivery to the lactating mother. Besides, infants have a lower drug clearance rate than adults because of immature hepatic and renal detoxification systems. So, for better observation of drug presence and their effects, examination of the blood, saliva or urine of infants can be done.

Drugs reaching infants through breast milk can sometimes provide serious adverse effects which may lead to infant death. Therefore, to ensure safe level of drug in breast milk and avoid potential toxicity in infant

some steps are needed to be followed:

- Avoiding unnecessary drugs or non-prescribed medications.
- Taking safe levels of prescribed drug dosage and closely observing infants for any adverse effect.
- Taking medication shortly after the breast feed to assure lowest drug concentration exposure to newborns.
- Bottle feed is recommended if a lactating mother is administered potentially harmful drugs or drugs having a longer half-life.

References:

1. <https://www.medsafe.govt.nz/profs/puarticles/lactation.htm>
2. Maternal drug use: evaluation of risks to breast-fed infants - PubMed (nih.gov)

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