Use of Endocrine Technologies in Monitoring Hormonal Disorders in College Going Girls of Mewar Region – Rajasthan

Dr. Asha Gupta

Associate Professor – Chemistry,
Govt. Meera Girls College, Udaipur (Rajasthan) – 313001

Abstract: *Mewar Region serves as a feeder channel for girls that came from remote tribal areas to semi-urban and urban area, seeking admission in Govt. Meera Girls College, Udaipur, which is affiliated to MLS University, Udaipur, Rajasthan. Young girls entering college are unaware of their body physiology and biomedical milieu. These are critically connected with their psychology and behavior. Our aim is to provide councelling for better health, growth development and behvorial adjustments on the basis of results of use of endocrine technologies. These could be used in each case to establish Biometric Data of every girls admitted in the college. This "Individual Health Card" will assist in providing baseline information to every girl about their body.This has wide impact on their social, emotional and intellectual quotient.*
Key Words: Technology, Endocrine Profile, Hormonal Dynamics, Biometric Data, Health Card

I. INTRODUCTION

Neuro-Endocrine glands control and homeostatically mantain each and every body function and mechanism.Any disorder in the body can be meaasured using breath,sweat,saliva, urine and blood, which shows various dynamics hormonal cycles as wll as of their metabollites.

To Generate Authentic, Verifiable and Reproducible Biometric Data of Girls Student of Mewar Region: It includes scanning of fingerprint, face recognition, DNA, palm print, hand geometry, iris recognition, retina and odour/scent and hormonal cycles as the girls transit from pre-adoloscent to post-putoertal and fertile stage. [1]

II. SCREENING OF PHYSICAL FEATURES FOR INCLUSION IN BIOMETRIC CARD

Screening of physical features for inclusion in Biometric Card will be done for each girls individually. **It will include same parameters:**

Height – average height is relevant for the measurment of health and wellness which describes living and standard of life. Gigantism or Dwarfism are hormonal disorders.

Weight – by using any divine formula:

Body Mass Index – kg/m^2 = mass kg / (heightm)^2

Blood Group - determination of Blood Group of each girl such as: A, B, AB, O, Rh^{+ve} & Rh^{-ve}. Classification of blood based on presence and absence of antibodies and inherited antigens in RBC as proteins, carbohydrates, glyco-proteins or glycolipids.

Developments of Mammary Glands – in prepubertal and post pubertal girls in order to prepare a mammogram.

Pelvic Measurments – the gradual widening of pelvic region as indicator of reproductive age, fertility and related features.

In our Mewar Region marriages of children in pre-adoloscent period are quite common and the birth of babbies out of such marriages may happern quite early between the age of 11-13 years.

These physical features point out several things of genetics of an individual (parent and pedigree). Along this Deformaties in physical features also related to genetic disorders.

Technologies used for determining endocrine profile and status of fertile girls include parameters listed below.

Technologies such as biochemical estimations will be used for a qualitive and quantitative analysis of FSH, LH, LHRH, estrogen, progestrone b-esterdiol in blood.

Breath Analysis – breath analysis of exhaled breath monitor :200. Volatile organic matters related to blood concentration and blood alcohol, other diseases, asthama testing, lung cancer, diabetes, etc. [2]

Sweat Analysis – non-invasive technique of testing if cystic fibrosis and illicit drugs, minerals as Na^+, K^+, Cl^-, NH_4^+ alcohols, lactate, peptioles and proteins. [3]

Saliva Test – for endocrine, immunologic, inflammatory infection and other types of body conditions as assaying of steroid hormone, RNA, enzyme and antibodies cushings disease, anovulation, HIV, caner, parasites, hypogonadism, allergy. [4], [5], [10]

Urine Test – diagnoses tract infections, kidney disorderd, liver problems, diabietes or other metabolic conditions. [8]

Blood Test – physiological and biochemical status of body as disease, mineral, pharmaceuticak drugs effectivenesss, total blood count, cancer, glucose and protein, etc. [1], [5]

III. OBJECT OF STUDY:

Instruments: Jet electrophoresis will be used for SDS electrophoresis and iso-electric focusing for preparing DNA profile of individual student.

Spectrophotometery of quantification serum proteins,hormones, blood sugar,creatinine, providing facilities for determination of blood groups and differential blood cell count. These are indicators of pathologies of various kind and are also used for genetic counseling.

Training facilities will be provided toresearch scholars who will be working for different segments of this research proposal. [6]

This realistic approach will address issues relating to nutritional disorders, fertility problems, psychological difficulties such as – mood swings and changes in behavioral patterns.

This can be an interdisciplinary project where inputs from biomedical scientists and psychologists along with the clinical staff can be received.[7], [8]

IV. CONCLUSION:

These biometric data are of great value to keeep in database informations of college girls to establish "Individual Health Cards". This will be a great use for each student during their academic tenure in the college and also later in their future life. [9]

This is a new thinking to initiate similar such work in every college and university.

REFERENCES:

[1]. Berg land, R. M., and R. B. Page, Pitutary – Brain Vascular Relations: A New Paradigm, Science 204; 18 (1979).
[2]. Chaykin, S. Biochemistry Laboratory Techniques (1975), Wiley Eastern, New Delhi.
[3]. Dorfman, R.I., ed, Methods in Hormone Research, Vols 1-5 Academic Press, Inc., New York, 1973.
[4]. Engvall, Eva; Perlmann, Peter (1971), "Enzyme- linked immunosorbent assay (ELISA) quantitative assay of immunoglobulin "G", Immunochemistry.
[5]. Faris, F. Practical Biochemistry (1972), Butter Worth, London. Melmed, S; Polonsky, K S; Larsen, P R; Kronenberg, H M (2011), Williams Text Book of Endocrinology (12th ed), Saunders, p.331.
[6]. Unlunhizarci K, Katlas G, Kelestimur F (2012). " Non Polycystic Ovary Syndrome – related endocrine disorders associated with hirsutism", Eur J Clin Invest, 42(1); 86-94.
[7]. Use of DNA in Identification, "Access excellence.org.Retrived 2010-04-03.
[8]. Varley, H., Practical Clinical Biochemistry (1967), Arnold Heinemann, New Delhi.
[9]. Weaver, A. C. (2006), "Biometric Authentification", computer, 39(2), p. 96-97.
[10]. Wyatt K M, Dimmock P W, Hayes-Gill B, Crowe J, O' Brien P M (2002), "menstrual Symptomatic; A Simple Computer- aided method to quantify menstrual cycle disorders", Fertility and Disorders.