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Research Article

Swasth Mahila Swasth Pariwar: A Screening Program for Women to Detect Common Health Problems in Cost Effective Manner

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Abstract

Objectives- A woman is pivot of a family, but they hardly pay attention to their health. The present study aimed to screen the women for common health problems under one roof. A programme "*Swasth Mahila, Swasth Pariwar*" was conducted in a small hospital set up and cost effective manner. **Material and Methods-** 408 women, above 18 years were screened for the study after obtaining their consent, 294 were enrolled and were subjected to a questionnaire regarding sociodemographic factors, dietary habits and medical history. Anthropometry and clinical examination was followed by laboratory investigations including Hb%, TLC, DLC, P/S for anaemia, Urine analysis, Blood Glucose. Vaginal cytology with special staining in patients complaining of vaginal discharge (n=128). After screening, patients were referred to separate special clinics accordingly for homoeopathic treatment and follow up. Collaboration with family planning department was done to educate them about family planning practices. **Results-** The prevalence of anaemia was 40.14% (mean haemoglobin 10.1g/dl). 64.4% had mild, 33.1% had moderate and 2.5% had severe anaemia. 92 % women had iron deficiency anaemia. The prevalence of diabetes was 11.57% and pre-diabetes was 28.9 %. 13 new diabetic and 35 UTI cases were identified. 45.3% women had bacterial vaginosis, 10.9% had trichomoniasis, 17.2% had candidiasis and 0.8% had candidiasis with bacterial vaginosis. All the facilities including consultation, medical examination and laboratory testing were free of charge. The expenditure on laboratory testing for each patient was Rs 300 (approx). **Conclusion-** This programme helped to identify nutritional, lifestyle disorders and to generate awareness to improve the sexual health status of women in a cost effective manner.

Keywords: Anaemia; women; Health; vaginal; diabetes.

Introduction

Woman as a pivot of the family lays the foundation stone for its development, progress and prosperity but unfortunately she herself has been neglected on some very important fronts like health care. Health care is important for women as she forms a considerable part of the population. Population-census of 2011 puts the sex ratio at 940 females for every 1000 males (Sarabu, 2012). Also the woman's body changes throughout the life from menarche to menopause. Many women face social, cultural and economic barriers to lifelong good health. Time constraint is another important factor due to which a female avoids visiting the hospital too often.

Keeping the above in mind, we conducted a month long programme titled '*SWASTH MAHILA SWASTH PARIWAR'*, at Dr B R Sur Homoeopathic Medical College & Hospital, New Delhi with the objective to screen the women above 18 years for common health problems under one roof, in a small hospital set up in a cost effective manner. Through this programme a humble effort was done to create health awareness amongst the women. Special clinics were set up for the treatment of the detected patients under one roof.

Material and Methods

Setting: Dr. B.R. Sur Homoeopathic Medical College and Hospital, from 10th April-7th May 2015.

Participants: Females above 18 years of age

Screening: Programme was done in two phases-

1. Screening phase
2. Treatment and follow up phase.

A written informed consent was obtained from all women participants. A detailed pre-test questionnaire was applied by medical personnel prior to clinical examination and blood collection. The questionnaire recorded information on demographic data including age, residence, socio-economic status and education, marital status, several lifestyle factors namely tobacco, alcohol and caffeine consumption, family history, disease history, medication use, and data regarding reproductive and obstetrical history, Socioeconomic status (SES) was estimated according to Kuppuswamy's scale (Bairwa et al, 2013). Patients were asked about their dietary habits including number of meals they take and food items they consumed(less than or more than 3 times/wk).

General physical examination and anthropometry was carried out. Body weight and height were measured with participants standing without shoes in light clothes. Bodyweight was measured in kilograms to the nearest 0.1 kg using a digital scale, which was calibrated regularly. Height was measured to the nearest 5mm using a height gauge. Body mass index (BMI) was defined as weight in Kg/ (height in meters) (WHO Technical report Series, 1995).

Hemoglobin estimation was done by taking venous blood (collected in anticoagulant) in 5 ml Drabkin's reagent.Patient's hemoglobin was done by Cynamethemoglobin method (WHO manual 2003) using Spectrophotometer T-106. For type of anemia, a thin blood smear was prepared and stained with Leishmann's stain and examined under high power of microscope. An expert pathologist gave opinion about the type of anemia by peripheral smear examination.

Anemia was defined as an Hb % <12g/dl as per WHO norms (WHO Nutritional anemia report, 1968). Mild anemia was defined as Hb % of 10-11.9gm/dl, moderate as 7-9.9gm/dl and severe as <7gm/dl (Table 1).

Capillary blood glucose estimation was done. Urine routine (pH, specific gravity, protein, sugar, urobilinogen, ketone, blood, and bilirubin) and microscopic examination was carried out by the methods of Godkar and Godkar (2003).

Table 1: Standard terminology used as per WHO guidelines

Investigation	**Disease**	**Norma reference range**
Blood Test (Hb%, TLC, DLC, ESR, P/S for type of anaemia)	For Anaemia (as per WHO)	Anaemic: Hb%: <12 g/dl Mild anaemia: 10-11.9 g /dl Moderate anaemia: 7-9.9 g/dl Severe anaemia: <7 g/dl
Urine test (Routine and Microscopic)	For Acute and chronic Urinary tract Infection (UTI)	Normal : Microscopic examination under hpf :WBC<5/hpf
Blood sugar fasting and PP	For impaired fasting glucose and Diabetes(as per ADA)	Prediabetic: 100-125 mg/dl. Diabetic:≥ 126 mg/dl
Test of vaginal discharge (WET mount, pH, whiff test etc.)	For Pelvic Inflammatory Disorder, Bacterial vaginosis, Candida & Trichomonas infections.	pH≥ 4.5, Positive whiff test and Nugent's score 7-10 indicative of bacterial vaginosis (BV) (Nugent *et al*., 1991)
Body mass index (BMI)	Weight in Kg/ (height in meters)^3(as per WHO guidelines)	Underweight: BMI<18.5kg/m^2 Normal : BMI 18.5-24.9 kg/m^2 Overweight: BMI 25-29.9 kg/m^2 Obese: BMI ≥30 kg/m^2

In collaboration with directorate of Family Welfare, Govt. of NCT of Delhi, a clinic was set up in the hospital to provide counselling and advice regarding contraceptive and family planning methods, distribution of contraceptives and IUCD insertion to the willing patients.

After screening and analysis of lab reports, the females were referred to respective clinics set up in the hospital for treatment and follow up.

Results

408 consented women underwent general physical examination and anthropometry. 294 agreed for laboratory testing for various common female disorders.

Women of all socioeconomic status attended the programme but majority of them were from middle class (Table 2) and 34% of the women were found to be overweight.

Table 2: Socioeconomic status of patients during the programme

Socioeconomic Status	Percent of Patients
Upper	10.54%
Upper middle	38.44%
Lower middle	23.81%
Upper lower	23.47%
Lower	3.74%

Out of 294 screened cases, 118 (40.14%) were found to be anemic with a mean haemoglobin value of 10.1g/dl (range 3.4-11.9 g/dl) and 176 (59.86%) females were non-anemic with a mean haemoglobin value of 13.35g/dl (range 12-16g/dl) (Table 3).

Table 3: Prevalence of Anemia

Anaemia status	No. of subjects (n=294)
Normal	176 (59.86%)
Anemic	118 (40.14%)

On the basis of severity of anaemia, anaemic females were categorized as mild, moderate and severe as per WHO guidelines and is mentioned in Table 4. On peripheral examination it was found that 48(40.68%) had normocytic normochromic morphology, 21 (17.74%) had early stages of iron deficiency anaemia as reflected by normocytic hypochromic morphology, 41(34.74%) had iron deficiency anaemia with microcytic hypochromic morphology and 8 (6.79%) had dimorphic anaemia (Table 5).

The prevalence of diabetes mellitus was 11.57% and pre-diabetes was 28.9%. Thirteen new diabetes cases were identified during the screening process (Table 6).

Table 4: Classification of anaemia according to WHO criteria

Anaemia Status	No. of Subjects (n=118)
Mild	76 (64.4%)
Moderate	39 (33.1%)
Severe	3 (2.5 %)

Table 5: Peripheral smear examination of anaemic subjects

Red Cell Morphology	Anaemias (n=118)
Normocyctic normochromic	48(40.68%)
Normocytic hypochromic	21(17.74%)
Microcytic hypochromic	41(34.74%)
Dimorphic	8(6.79%)

Table 6: Prevalence of Diabetes

Diabetic Status	No. of Subjects (n=294)
Diabetic	34(11.57%)
Pre-diabetic	85(28.9%)
Normal	175(59.53%)

Out of 294 females, 128 complained of vaginal discharge. Among them 58 (45.3%) women had bacterial vaginosis, 22 (17.12%) had candidiasis, 14 (10.9%) had trichomoniasis and 1 (0.8%) had candidiasis with bacterial vaginosis. Vaginal discharge of 33 (25.8%) females had normal flora (Table 7).

Table 7: Prevalence of type of infection in vaginal discharge by microscopic examination

Type of Infection	Number (%) of women n=128(43.5% women)
Bacterial vaginosis	58(45.3%)
Trichomoniasis	14(10.9%)
Candidiasis	22(17.12%)
Candidiasis+bacterial vaginosis	1(0.8%)
Normal	33(25.8%)

13 women had urinary tract infections (UTI) identified by microscopic examination of urine under high power field with WBC more than 4/hpf.

In the clinic for contraceptive and family planning methods, 119 females were educated about family planning methods, 90 females received condoms, 04 females have undergone IUCD insertion, and three were referred for tubectomy.

The expenditure for laboratory testing for each patient was Rs 300 approx.

Discussion

Woman is pivot of the family but she hardly pays attention to her health. Swasth mahila swasth pariwar programme was done with an aim to screen the women of various common health problems under one roof in a cost effective manner. The collaborative set up of various clinics in a small hospital helped to screen the women of various common health problems like diabetes, hypertension, urinary tract infection, anemia, obesity and vaginal infection etc in a very convenient and time saving manner.

All facilities including consultation, medical examination and laboratory testing were given free of charge.The expenditure on laboratory testing for each patient was Rs.300(approx.).This way the programme was run with a very low expenditure.

In this programme, the prevalence of anemia is found to be 40.14% among females irrespective of the socioecomic status with predominantly mild anemia. The results are similar to the observations of National health family survey (NFHS-3) 2005-06 done on women of age group 15-49years where 44.3% women were found to be anaemic (NFHS-3, 2005-06).

Nutritional anaemia is commonest cause of anaemia and it includes those associated with prolonged, inadequate intake of folates, vitamin B12, iron, proteins and vitamin C and 50% of anaemia is attributable to iron deficiency (Seshadri and Gopaldas, 1989, Fishman et al, 2000). In the present programme, according to the cell morphology most common cause of anemia is found to be nutritional. The reasons for iron deficiency can be inadequate intake or poor bioavailability of iron rich food in certain seasons, intake of small portions of such food products in the diet or menorrhagia as suggested by the pretest test questionnaire to all the participants.

In this programme we have observed high prevalence of lifestyle disorders in females. 34 % of the women are found to be overweight .The programme helped in generating awareness among women that being overweight increases the risk of various health problems like coronary heart disease, hypertension, stroke, type 2 diabetes etc.

The prevalence of diabetes mellitus was 7.8% and pre-diabetes was 32% which correlates with the earlier reported 7.3% prevalence of diabetes in urban population (Mohan et al, 2007). Thirteen new diabetic cases were identified during the screening process. With rising prevalence of obesity and metabolic syndrome, there is a dramatic increase in type 2 diabetes mellitus (Alexandra and Judith, 2013). The programme helped in early detection of diabetes in women which gave them potential benefits like enhanced length and/or quality of life which might result from a reduction in the severity and frequency of the immediate effects of diabetes or the prevention or delay of its long-term complications. (Report of a World Health Organization and International Diabetes Federation meeting, 2003).

Out of 294 females, 128 complained of leucorrhoea. Bacterial vaginosis is the commonest cause of abnormal vaginal discharge which correlates with the study done by Thulkar *et al* 2010. Proper history taking, physical examination and identification of type of vaginal infection help in correct therapy (Karen and Kelly, 1990).

Thirteen women had been identified urinary tract infections (UTI). Its treatment and follow-up may help them avoid future renal complications.

In the clinic for contraceptive and family planning methods, 119 females were educated about family planning methods. This sincere effort helped in improving the sexual and reproductive health status of women.

Swasth Mahila Swasth Pariwar programme helped to identify nutritional, lifestyle and common clinical disorders amongst women and to generate awareness to improve the general and sexual health status of women in a cost effective manner. It is recommended that this type of cost effective programmes if run in small set ups will improve the quality of life of women in a time saving and convenient manner.

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