

ISSN 0513-3149

Rs.15



# YOUR HEALTH

**An Official Monthly Publication in English of the  
Indian Medical Association since 1952 for the people  
to propagate Health Awareness in the Community**

*“Hematology  
Beyond Blood -  
A Holistic Approach”*



**Volume 73 | Number 2 | February 2024 | Kolkata**

# YOUR HEALTH

OF INDIAN MEDICAL ASSOCIATION  
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# YOUR HEALTH

of the

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## Donating Bone Marrow Is Easy and Important: Here's Why

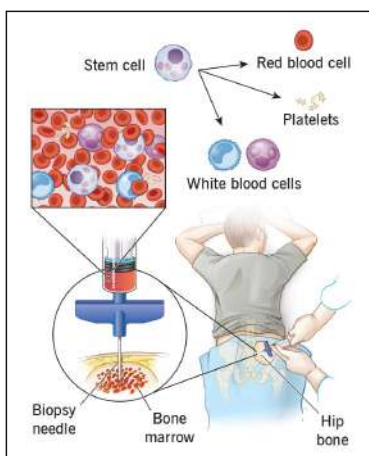


**Dr. Kakali Sen**  
Hony. Editor, Your Health

Bone marrow is a soft, spongy material found in your large bones. It makes more than 200 billion new blood cells every day, including red blood cells, white blood cells, and platelets. But for people with bone marrow disease, including several types of cancer, the process doesn't work properly. Often, a bone marrow transplant is a person's best chance of survival and a possible cure. The good news is that donating bone marrow can be as easy and painless as giving blood.

### What you need to know about bone marrow transplants

A bone marrow transplant replaces diseased bone marrow with healthy tissue, usually stem cells found in the blood. That's why bone marrow transplants are also called stem cell



transplants. In an allogeneic transplantation (ALLO transplant), blood stem cells from the bone marrow are transplanted from a donor into the patient. The donor stem cells can come from either the blood that circulates throughout another person's body or from umbilical cord blood.

But there's a catch. Before a person receives an ALLO transplant, a matching donor must be found using human leukocyte antigen (HLA) typing. This special blood test analyzes HLAs, which are specific proteins on the surface of white blood cells and other cells that make each person's tissue type unique. HLA-matched bone marrow is less likely to cause a possible side effect of transplantation called graft vs. host disease (GVHD). GVHD is when immune cells in the transplanted tissue recognize the recipient's body as "foreign" and attack it.

Only about 30% of people who need a transplant can find an HLA-matched donor in their immediate family. For the remaining 70% of people, doctors need to find HLA-matched bone marrow from other donors. In 2016, that equals about 14,000 people — from very young children up to older adults — in the United States who need to find a donor outside of their close family.

### How a match is made

The National Marrow Donor Program (NMDP) has a registry of potential donors that might be the match a patient needs. Here's how the donation process works:

- You register with the NMDP online or in person at a donor center. You can find a center by calling the toll-free number 1-800-MARROW2.
- You collect cells from your cheek with a cotton swab or provide a small blood sample. This is done by following directions in a mail-in kit or at a donor center. The sample is analyzed to determine your HLA type, which is recorded in the NMDP national database.
- If an HLA match is made with a patient in need, the

NMDP contacts you. A donor center takes a new sample of your blood, which is sent to the patient's transplant center to confirm the HLA match. Once doctors confirm the match, you'd meet with a counselor from the NMDP to talk about the procedures, benefits, and risks of the donation process. You then decide whether you're comfortable with donating.

**The bone marrow donation process**

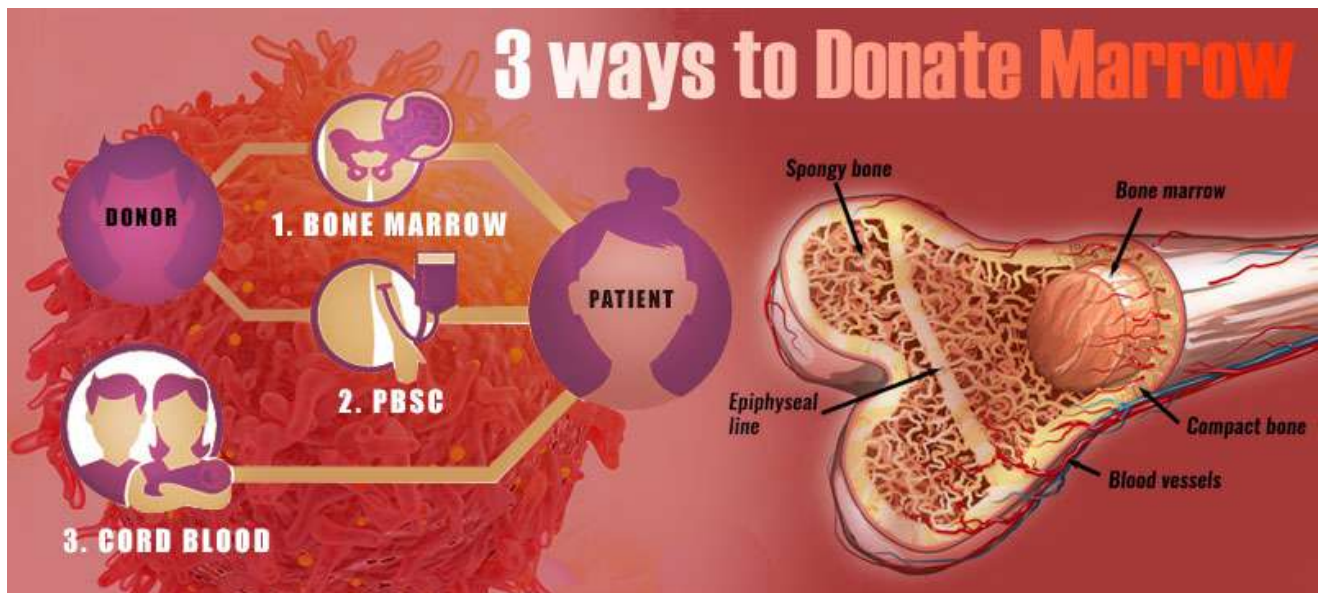
If you agree to donate bone marrow, you'll likely do what's called a peripheral blood stem cell (PBSC) collection. Here's how it works:

- For 5 days leading up to the donation, you'll get a daily 5-minute injection of granulocyte colony-stimulating factor (G-CSF), a white blood cell growth hormone.
- On day 5, a trained health care provider will place a needle in each of your arms. One needle will remove blood, and a machine circulates the blood and

collects the stem cells. Your blood then is returned to your body through the second needle. The process takes about 3 hours and may be repeated on a second donation day. Side effects include headaches, bone soreness, and discomfort from the needles during the process.

Although less common, some donors may be asked to undergo a bone marrow harvest, during which doctors take bone marrow from the back of a donor's hip bone during surgery. Donors usually go home the same day of the surgery and can return to normal activity within 1 week. Common side effects include nausea, headache, and fatigue, most often related to the anesthesia. Bruising or discomfort in the lower back is also common.

**What is the end result? You could help cure someone's disease.**



## From the Desk Secretary

Nearly 609,360 deaths and 1,918,030 new cancer cases in United States and 14,61,427 new cases and 8,08,558 deaths in India were recorded in the year 2022. Every 1 in 68 males and 1 in 29 females developed risk of cancer. Cancer mortality is reduced when cases are detected and treated early. For this we have to aware people by providing correct information about the early symptoms of cancer, thus enabling them to seek treatment at an early stage.

Cancer arises from three different kind of factors including physical (ultraviolet and ionizing radiation), chemical (tobacco smoke, alcohol etc) and biological (viruses, bacteria, or parasites) carcinogens. There are several screening test for cancer considered effective like mammography for Breast Cancer, HPV Test for Cervical Cancer, colonoscopy, CT scan etc.

Research on Cancers started almost 200 years back. A few judicious observers were ahead of their time, including Rudolf Virchow, who with the benefit of a microscope deduced the cellular origin of cancer in 1863, and Stephen Paget, who in 1889 wisely mused about the seed and soil hypothesis of metastatic disease, a theory that is coming into its own today. Other key advances were the discovery of a viral cause of avian cancer by Peyton Rous in 1911 and the proposal by Theodor Boveri in 1914 that cancer can be triggered by chromosomal mutations. Singular Discoveries and Major Events in the Cancer Field and Changing Relative Survival Rates for Patients with Cancer in the United States happened during 1863–2006.

The World Health Organization has recommended the three strategic approaches for eliminating the cervical cancer by 2030 which includes cervical cancer vaccination as a key element : 90% vaccination coverage of the adolescent girls; twice in a lifetime screening coverage of 70% of women between 35 and 45 years using a high performance test and appropriate treatment of up to 90% of screened positive women. Before the end of the present



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millennium, this strategy is anticipated to successfully lower cervical cancer incidence to a threshold of four per 100,000 woman years (i.e., levels no longer regarded as a public health hazard).

Prevention of oral cancer has been a much written topic with many Global and National initiatives. But across the world a successful reproducible model for Oral Cancer Prevention is yet to materialize.

It is well known that the more than ninety percent of oral cancer can be directly linked to the consumption of tobacco with or without alcohol. Yet the easy availability and widespread use of these products defeats all attempt to stop the calamity. India is the second largest tobacco producer behind China. The tobacco industry of India employs about 36 million people in farming, labour activities, manufacturing, processing and export activities. The average annual revenue collection, from tobacco products, stands at about Rs 53,750 crore as on August 2021.

It is irritating and not acceptable that Boliwood heroes, whom a large section of people follow are promoting tobacco.

## Donate Human Umbilical Cord Blood Voluntarily

Human umbilical cord blood that remains in the placenta and the attached umbilical cord after childbirth. Human umbilical cord blood composed of red blood cells, white blood cells, plasma, and platelets. Apart from these substances other components present in cord blood is NK cells, T cells, haematopoietic stem cells.

- Medical uses of human umbilical cord blood  
Haematopoietic Stem cell transplant (HSCT): cord blood derived haematopoietic stem cells use for rescue from cancer.
- Cord blood cells may use for various benign blood disorders.
- Immunological and genetic disorders.
- Diabetes research, etc.

In India there are public and private cord blood banks, each public and private cord blood banks have its own advantages.

In public cord blood bank, stored stem cells are reserved not for specific individual. That may be accessible to above mentioned wide range of patients. In public blood banking is usually free for donors just like whole human blood donation in a blood centres.

In private cord blood bank, donors' family pay the collection and preservation charges to private blood bank, and which is accessible any point of time for the donor or their immediate family.

### Disadvantages of public vs private cord blood bank:

In public cord blood bank should have enough blood units to match the country's diverse population. Whereas in private cord blood bank despite immediate access there is relatively small number of stem cells compared to bone marrow. So, multiple donors may be necessary during adult-onset transplantation. Collection, storage and preservation are very much costly and that bears donor family. Long time storage of cord blood stem cells may not useable due to loss of storage related viability of stem cells.

In summary, public cord blood banks serve the



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community by providing stem cells for various patients and public cord blood donation remains a valuable option for altruistic reasons. While private cord blood banks offer convenience and exclusivity, exclusive access to stem cells for the donor's family. Despite The main drawbacks include limited stem cell quantity, high costs and lack of community benefits.

## Community Participation In Detection Of Hemophilia

Hemophilia is a bleeding disorder that is commonly inherited by X chromosome linked genes and thus mostly affects male. There is deficiency of clotting factors of either factor VIII in Hemophilia A or factor IX in Hemophilia B. Although gene therapy for cure in hemophilia B is approved very recently, but not easily available to most people with hemophilia (PwH). Thus, health care goals to proper diagnosis, replacement of the the missing factor (either FVIII or FIX), physiotherapy and other interventions to prevent complications. And with time, with the help of improved prophylaxis and physiotherapy care , hemophilia, once a crippling disease if not treated, is now a manageable disease with fully active normal life.

As estimated, India may have 1.3 to 1.4 million people with hemophilia (PwH); only approximately 28,000 are now registered with the GOI and other registries reflecting even less than 10% of estimated PwH are diagnosed till date; the most common reasons as reflected from different sources are- 1) majority (>70% of the estimated ) of the hemophilia cases are of the mild variety (factor activity in plasma >5%) either do not have any bleeding symptoms in lifetime or they ignore this mild bleeding symptoms, 2) lack of awareness of this rare disease among common people, 3) non-availability of diagnostic facilities at the community level hospitals and few other causes.

Moreover, because of some mis-conceptions regarding the disease engraved in the minds of common people and disabilities, the PwH often are socially isolated restricting their social activities and social participation. Poor mood status, depression, low self-esteem and poor self -perception commonly observed in many of the PwH. The way out to these common problems are to engage them in social activities so that the PwHs have a feel that they are easily accepted and supported by the community. In terms of hemophilia care, by social support and community participation, it essentially means support and participation from parents, close friends of PwH and parents, classmates, teachers, neighbours and other people in the community. The family members and the other neighbours who are in regular contact with the PwH are to made aware of the disease so that they are able to offer a positive support in rearing up the PwH and also in their psycho-social development.



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It can be said beyond doubt that the cornerstone of improved hemophilia care in a country is the detection and diagnosis of more and more number of new cases and bringing them under comprehensive hemophilia care programme. The National Health Mission (NHM), Govt of India recently included hemophilia and related bleeding disorders under the national health policy of Hemoglobinopathy Control Program (HCP). For a better and successful implementation of the program, all the stakeholders involved in hemophilia care have to be actively involved in detection and proper diagnosis of hemophilia cases. Here lies the importance of active participation of the community for aware generation and detection of cases at the grass root level. It's the duty and responsibility of the health care providers to make more people in the community aware of the symptoms of hemophilia and other related rare bleeding disorders and bring them to the diagnostic facilities for proper diagnosis and implementation of this National health program.

[WFH 2024 Theme- **“Equitable access for all: recognizing all bleeding disorders”**]



## Anemia in Elderly

Anemia is a problem of not having enough healthy red blood cells or hemoglobin to carry oxygen to the body's tissues. World Health Organization (WHO) thresholds were established in 1968 in a cohort of persons <65 years old, defining anemia as a hemoglobin (Hb) level of <130 g/L in men and <120 g/L in women. However, Hb levels decline with age and are distinct in different ethnic groups. Anemia can cause a range of non-specific symptoms including tiredness, weakness, dizziness or light-headedness, drowsiness, and shortness of breath, especially upon exertion. By elderly it is taken as patients with age 65 years or more.

**Epidemiology of anemia in elderly:** Anemia in older persons is common and relevant, thus posing new challenges to health care systems worldwide. Large prospective registry studies have revealed an overall prevalence of anemia ranging from 10% to 24% in older individuals. Senior adults admitted to the hospital are more frequently affected by anemia (40%), and the prevalence is even higher (47%) in nursing home residents. Considering the global prevalence of 17%, as many as 15 million older persons may suffer from anemia in the European Union, and the same may hold true for North America. In India, there is a lack of national-level estimates on the prevalence of anemia among the elderly, which will be useful to assess the burden of anemia in the elderly in India. The National Family Health Survey has estimated hemoglobin levels only till 49 years of age.

**Clinical consequence:** Elderly anemia has been independently linked to deteriorated physical and cognitive abilities, increased dementia, and increased risk of falls, morbidity, and mortality. It is also an independent predictor of poor health outcomes in elderly patients and is a risk factor for cardiovascular and neurological events. Altogether, anemia among the elderly population grossly affects the health-related quality of life. Moreover, many anemia symptoms, such as weakness, exhaustion, and shortness of breath, are frequently misunderstood as common occurrences in elderly people.



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**Etiology:** In many patients, one or more etiologies are detected, and a thorough investigation immediately leads to the correct diagnosis. In these patients, management is largely dependent on the underlying etiology, and in many cases, anemia can be corrected by interventional therapy independent of age. Good examples are iron, vitamin B<sub>12</sub>, or folate deficiency. Erythropoietin deficiency with or without overt exocrine kidney insufficiency can be detected quite often in older persons. A large number of patients turn out to have an underlying (chronic) inflammatory disease. The concept of a subclinical pro-inflammatory state called inflammaging may be a good explanation for the development of anemia in senior persons. In other cases, a clonal myeloid or other neoplasm is detected. In a relevant proportion of patients, no underlying cause of anemia is found after a first examination, resulting in the provisional diagnosis of Undiagnosed Anemia.

**Conclusion:** Anemia in older persons poses a clinical challenge in daily practice as the population ages. The definition of the underlying mechanisms of anemia at older age will form the basis for individualized treatment algorithms including iron supplementation, application of ESAs, and promising new drugs directed at regulation of hepcidin or HIF.

## Voluntary Donation

Blood transfusion is an indispensable and irreplaceable part of the health care system. Every year millions of lives are saved through blood transfusion. But, it is a double edged sword. While it has a life-saving face, transfusion can be life threatening too. Hence, it is equally important to ensure "Safe Blood" transfusion too. Just like 'charity begins at home', safe transfusion starts at the blood donation camps.

In a populous country like India, demand for blood far outweighs the supply. Voluntary blood donation plays a crucial role in bridging this gap and ensuring a steady supply of safe blood for those in need.

### Why voluntary blood donation?

Blood components are obtainable only from individuals who donate blood or its components. Various national and international organisations, including WHO, have defined voluntary non-remunerated blood donation as follows :

**A voluntary non-remunerated blood** donor gives blood, plasma or cellular components of his or her own free will and receives no payment, either in the form of cash or in kind which could be considered a substitute for money. This would include time off work other than that reasonably needed for the donation and travel. Small tokens, refreshments and reimbursements of direct travel costs are compatible with voluntary, non-remunerated donation.

In 1975, the Twenty-eighth World Health Assembly, in a resolution, called for the development of national blood transfusion services based on voluntary blood donation to ensure safe, adequate and sustainable blood supplies and to protect the health of blood donors and recipients.

Analysis shows that countries with 100% voluntary blood donation have a higher proportion of regular blood donors and that this has been maintained over a number of years. A panel of safe voluntary donors who



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donate blood regularly enables blood collection to be planned systematically to meet the requirements for blood, by blood groups and components. Patients are not placed under pressure to find blood donors in order to receive treatment and feel a sense of being cared for by others whom they will never meet. In turn, this may motivate a spirit of generosity and a desire for reciprocal volunteering in the future. It is rightly said that Voluntary blood donation fosters a culture of altruism and social responsibility, encouraging individuals to contribute to the welfare of society.

Relying on replacement donors is not a sustainable solution to meet the growing demand for blood because they provide blood only for individual patients when requested. Hospitals that are dependent on replacement donors are rarely able to maintain a sufficient stock of blood to meet the transfusion needs of all their patients, particularly in emergency situations or for regular transfusions, or to share their blood supplies with other hospitals.

**Is voluntary blood donation safer than**

### replacement donation?

A number of studies have reported significantly lower prevalence of transfusion-transmissible infection markers among voluntary donors compared with other types of donors, with the lowest rates among regular donors. [ref: WHO Blood Safety Indicators, 2007. Geneva: World Health Organization; 2009.]

Voluntary donors are more likely to provide accurate health information, reducing the risk of transmitting infections through transfusions. On the other hand, in their eagerness to donate blood to save the life of a loved one, replacement donors may conceal information about their health status or lifestyle behaviour.

### What are the Challenges for 100% voluntary donation?

Despite its importance, voluntary blood donation faces numerous challenges in India.

Lack of awareness is the biggest problem. Many people are unaware of the importance of voluntary blood donation or may hold misconceptions about the process. There are many cultural beliefs and taboos surrounding blood donation which deter a person from donating blood. In addition, needle-phobia and the fear of contracting diseases through donation dissuade a lot of people.

The government has a huge role to play in generating the popularity of voluntary blood donation. Blood transfusion needs to be recognised as an integral part of the health care system. Adequate financial outlays are needed to carry on a self-sustainable blood-donor programme. Non-availability of trained staff is often a hindrance to optimal blood transfusion services.

### How safety of blood can be assured at blood donation camp?

It is the joint responsibility of the blood centre and the camp organisers to ensure safety and quality of blood.

- All donors should be voluntary non-remunerated and bereft of any financial benefits.
- Proper counselling and screening of donors must be ensured.

- Every donor should be checked for pre-donation haemoglobin to ensure that the bag has adequate amount of usable red blood cells.
- The donation area cleanliness should be maintained.
- The blood collected should be constantly mixed with hand or device to prevent getting clotted.
- Weighing scales must be used to ensure correct volume of donation.
- After donation, the bags should be properly sealed di-electrically to prevent contamination. Knots and clips are not allowed.
- Proper transportation of the blood bags in temperature controlled insulated boxes.

### Conclusion

The community must have confidence in its blood transfusion service. Without trust in its integrity and efficiency and the safety of its procedures, few people would choose to donate their blood. This trust is earned over a long period of time but can be undermined very quickly. By fostering a sense of altruism and compassion, we can collectively make a difference and ensure that no one suffers due to a lack of blood. The onus lies both on the blood centres / government and the donors to ensure smooth and adequate supply of safe blood.

## Screening for cervical cancer: looking at screening and its problem in India

### SUMMARY

Mass screening of 1566 women for Cancer cervix in Urban slum areas of Calcutta (Group A) and 1190 women in (Group B) remote villages of 24-Parganas (South) District of West Bengal of 30 to 60 years of age were undertaken from September 1996 to January 1997. After campaigning in residential areas of target population screening camps were organised. Each woman was subjected to history, clinical examination & Cytological screening and data were entered in a proforma. Aim of this program is to identify females at risk & to detect early cancer cervix. In Group A 63.9%, in Group B 47.7% women belong to 30 - 39 years of age. In Group A 36.7% women married below 15 years & 46.9% at 16-19 years in Group B 48.7% married below 15 yrs. & 44.6% at 16-19 yrs. In Group A 38.8% conceived at 1st year of marriage while 52.6% conceived in Group B. In Group A 45.4% & in Group B 65.4% women had 3/4 issues. In Group A, 13.6% had monthly income of Rs.500 & 39.3% Rs. 1000. In Group B, 57.6% had monthly income is Rs.500 & 28.8% Rs.1000. Literacy rate was 60.7% in Group A & 44.2% in Group B. Addiction of tobacco recorded in 25% in Group A & 73.7% in Group B. Abnormal cytological smear found in 107 women in Group A & 86 women in Group B. Rest smears in both groups showed inflammatory picture. All women screened had spent active sexual life 15 yrs. before facing 1st screening strongly indicating lowering age of 1st screening from 35 to 25 yrs. Early marriage should be prevented through awareness, education and raising socio-economic status. Campaign against tobacco consumption should be started in rural areas. Problems faced are apathy of target population to comply with request for screening apathy of the administration failing to mobilize target population effectively, apathy of medical & paramedical personnel in professional & purposeful execution of the screening program.

Although the incidence of cervical cancer has declined remarkably in developed Countries during past three decades. it is one of the most common cancer or Woman in developing countries. Cancer cervix is being recognised as an important public health problem in India It demands top priority for its eradication and control with proper steps ensuring



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primary prevention through public awareness and education and secondary prevention through cytological screening and treatment of precancerous lesions detected through screening. Till date in India magnitude of the problem has not been assessed except in certain cities and urban areas like Bangalore, Mumbai, Chennai, Delhi, Bhopal, Trivandram and only one rural area Barshi near Mumbai. There is no such population based data available till date for the city of Calcutta of state of West Bengal except a few hospital based data in this screening programme. We have screened female population from two areas - one group from urban slum area and another group from rural areas of the district of 24-Parganas (South), West Bengal by history, clinical examination and cytological screening by Papanicolaou's (Pap) Technic organised by Barasat Cancer Research & Welfare Centre (BCRWC).

BCRWC is a registered non-government organisation situated at Barasat, the district head-quarter of 24-parganas (North) of State of West Bengal

We also organised programme to increase awareness at the same time through popular lectures and exhibitions. Main aim of this study is to identify

women at risk to detect early cancer cervix through screening of two groups of populations and also to increase awareness through education. In this communication, we have looked into different problems faced during executing the programme.

### SUBJECT AND METHODS

From September 1996 to January 1997, mass cancer screening Programmes in urban slum areas of the city of Calcutta and in rural areas of 24-Parganas (South) District of West Bengal were organised. One thousand five hundred sixty-six asymptomatic women (Group-A) from urban slum areas and 1190 asymptomatic women (Group B) from rural areas of 30 to 60 years were screened. The screening camps were organised in residential areas of the target population. Before execution of the screening programme the aim of the project was explained in a meeting to female public health workers who have direct contact not only with the family but also with individual women of the areas. In turn, health workers explained the aim of this programme to the target population, motivated them and brought them to the screening camps. All women underwent thorough history taking and clinical examination which were recorded in a proforma after allotting a registration number individually. Proforma indicates identification number, address, religion, informations regarding life styles. Socio-economic status, personal history, educational status, marital status, history of addiction, menstrual and obstetric history and record of clinical and cytological examination. Two smears from uterine cervix with plastic brush were collected after properly exposing the area, smeared over a glass slide dried, fixed and sent for PAP STAIN' after properly marking the glass slide.

Smears were classified using standard Papanicolaou's classification of cells for detection of malignancies

#### Class interpretation of the smears is as follows

**CLASS-I Evidence of a malignant neoplasm no atypical cell.**

**CLASS-II Atypical cells present but no evidence of malignant neoplasm.**

**CLASS-III Cells present causing suspicion of malignant neoplasm.**

**CLASS-V Fairly conclusive evidence of malignant neoplasm.**

**CLASS-V Conclusive evidence of malignant neoplasm.**

Religion of the women attending the screening camp was recorded. It is said that some women against cancer Cervix through religious rituals e.g. circumcision in childhood in male Muslim population. But the attendance of Muslim women in both groups were insignificant. Sexual behaviour of male partners of women attending the camp could not be ascertained because of non-cooperation. During screening total number of 17 cases of Cancer Cervix was diagnosed clinically and excluded from the series.

### OBSERVATIONS

Age range of the women under survey is 30 to 60 years. In Group A, 63.9% belong to 30 - 39 years and 20.0% to 40 - 49 years; in Group B. 47.7% women belong to 30 - 39 years and 28.4% to 40 - 49 years. In Group A 66.7% are housewives with no other occupation. In Group A, 33.3% women work for their livelihood along with their household duties either in cultivation fields as hired labour or earn their livelihood by catching fish in rivers and selling in the local market.

The range of education is from 0 to 20 years in Group A with a mean education of 6-7 years. In Group B the range of education is from 0 to 14 yrs. with a mean education of 5.4 years. 39.2% women in Group A and 56.8% women in Group B had no formal schooling. Assets used to measure the standard of living included a radio and television set. In Group A 33.6% women television set and 17.6% both television and radio set. In Group B 33.7% women possess radio set and 6.8% women television. The marital status of the women is as follows in Group A 36.7% and in Group B 48.7% women were married below the age of 15 years. In Group A 38% and in Group B 52.6% conceived within first year of marriage. 45.4% women in Group A and 65.4% women in Group B had 3 - 4 pregnancies. 12.4% women in Group A and 23% women in Group B had more than 8 pregnancies. In Group A 52.9% and 86.4% in Group B stated their family income per month less than Rs.1000/- only. Addiction to tobacco in any form either oral, smoking or nasal were found very high in

rural women - 73.7% in Group B in comparison of 23.0% in group A. Cytological examination of smears with 'PAP' method reveal the following as shown in Table I

**TABLE-1**

Class Interpretation of Smears	No. of Women		Remarks
	Group A	Group B	
I	1465	1104	Screening every
II	35	45	Screening ever 5 yrs
III	32	23	Close follow up
IV	20	11	Histopathological Examination
V	14	7	Do

**DISCUSSION**

One thousand five hundred sixty SIX asymptomatic women (Group A) from urban slum areas and 1190 asymptomatic women (Group B) from remote rural areas between the ages of 30 to 60 yrs. were screened by cyolouical examination of uterine cervix. After reasonable period of campaign and motivation through female public health workers. Screening camps were organised in residential areas of target population. The women from urban slum areas are neglected due to lack of awareness, low socio-economic status and irresponsible male members of the family though the medical facilities are mostly city based in rural areas. Women cannot enjoy the facilities even if they want to do it because of absence of basic health structures, low socio-economic condition and Irresponsible male members of the family. Added to this, the family is robbed of their daily earning or they have to pawn or sell their assets whatever they have to attend city hospital which are about 100 to 150 kms away.

Analysis of the datas reveals remarkable low socio-economic state un both groups. This is responsible for starting a chain reaction eg poor hygiene, poor education, early marriage, early sexual life, multiparity. Poor economical level leads to poor education particularly to female members of the family Male members always yet a preference till date Female members are utilised in household activities.

Moreover, parents want to get rid of their daughters through marriage at an early age to ease financial burden of their own family. In this programme, each woman while facing first cervical screening in their life has spent more than 13 years of active sexual life. Considering this fact and analysing other datas, each woman is at risk to develop cancer cervix in future. So, In this soci0-economcal background the age of first screening should be lowered to 25 yrs instead of 5 years. To make the procedure cost effective, the women can be grouped according to cytopathological report of the cervical smears as shown in Table I for future course of action. Strong campaign against tobacco consumption should be organised particularly in rural areas through public education and awareness programme

Low level of education is the main obstacle Audio-visual aids fails due to low living standards. Though in urban slum areas Muslim population are significant, Muslim women could not be mobilised due to religious prejudices. Objections raised by male members add to this problem.

Apathetic and callous attitude of female public health workers and other administrative staff lead to poor organisation of the screening camps. Apathy of medical and paramedical personnels towards these programmess remarkable. It is very painful to observe on the pan of the medical personnels the lack of sincerity n taking history. n recording datas properly and taking cervical smears n a proper manner Poor copathologicalai report aggravate the situation. They should believe in the purpose of screening programmes and should undergo orientation courses periodically. Last but not the least inadequate health delivery system in state prevents treatment of women with precancerous or early cancer disease detected through screening. Screening programme for its success must be intimately associated with health delivery system. An isolated Screening programme can result in a false sense of security in women, that they are cancer free. Due to serious administrative lapses and apathy, there is no indication that health delivery system is being geared up to reach optimum efficacy in near future.

**CONCLUSION**

In mass cancer screening programme large section of women should be covered Screening policies should be determined according to resources, socio-economical and educational standard Primary prevention has to be decided as per characteristics of the population screened. For successful screening programmes with the main aim to identify women at risk of developing cervical cancer, each woman must recognise the cancer cervix as a serious disease. Secondly, she must know that every woman including herself is susceptible to carcinoma cervix, thirdly, prevention

of the disease can be achieved only by early detection. A team of public health workers, medical personnels both clinical and cytopathologists and paramedical staff should work together for professional and purposeful execution of the programmes.

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## Vomiting in Pregnancy

### Clinical Presentation

- Nausea and vomiting
- **Mild case:**
  - Vomiting more than twice in a day.
  - Small quantity
  - Patient's well maintained
- Hyperemesis gravidarum where vomiting affects the woman self
  - Progressive deterioration
  - Ketonuria
  - Tachycardia
  - Weight Loss
- In extreme cases in addition to the above, there may be:
  - Hypotension
  - Oliguria
  - Neurological disorders as a result of Vitamin B deficiency
  - Jaundice due to hepatic necrosis

### Diagnosis

- Bear in mind multiple pregnancy and vesicular mole, which may be the cause of severe vomiting
- Rule out other causes for the vomiting, such as gastrointestinal diseases, infection particularly of the urinary tract, cerebral and meningeal lesions.
- Urinary test for ketones will indicate the severity of the condition.
  - Mild case – urinary ketones are absent.
  - In a severe case – urinary ketones are present.
  - In a severe case, assess blood urea and electrolytes

### Management

#### Mild

- Reassure the patient that vomiting in pregnancy is a normal occurrence.
- Dietary advice
  - Small frequent meals are recommended
  - A diet consisting of carbohydrates and proteins is advised
  - Fatty and rich foods are better avoided.
- Antiemetics that have found to be non-teratogenic are given.
  - Meclozine -25 mg three times daily
  - Cyclizine -50 mg three times daily



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MD (Gynae) PGT BSMedical college

- Promethazine -25 mg three times daily

#### Severe

- Hospitalization is advisable since a change in environment often improves the condition.
- Initially, the patient should be under bed rest.
- Vital signs and weight should be monitored.
- The urine must be tested daily for acetone and chlorides. If chlorides are diminished or absent, it indicates a grave situation.
- Intravenous fluids are to be given.
  - Purpose is to correct the electrolyte balance and to supply carbohydrates in an easily assimilable form.
  - 2-3 Liters of 5% glucose saline is given for 24 hours.
  - Multivitamins and /or essential amino acid IV Preparations can be added to the drip one at a time.
- Sedatives are beneficial. Chlorpromazine 25 mg is given intramuscularly.
- In serious cases advise the following
  - 100 mg of aneurine hydrochloride and 20 ml of 10% calcium gluconate intravenously in the acute state of the disease.
  - The above treatment markedly improves the patient's condition within 24-48 hours.
- Clinical improvement is judged by a normal pulse rate adequate urinary output and absence of



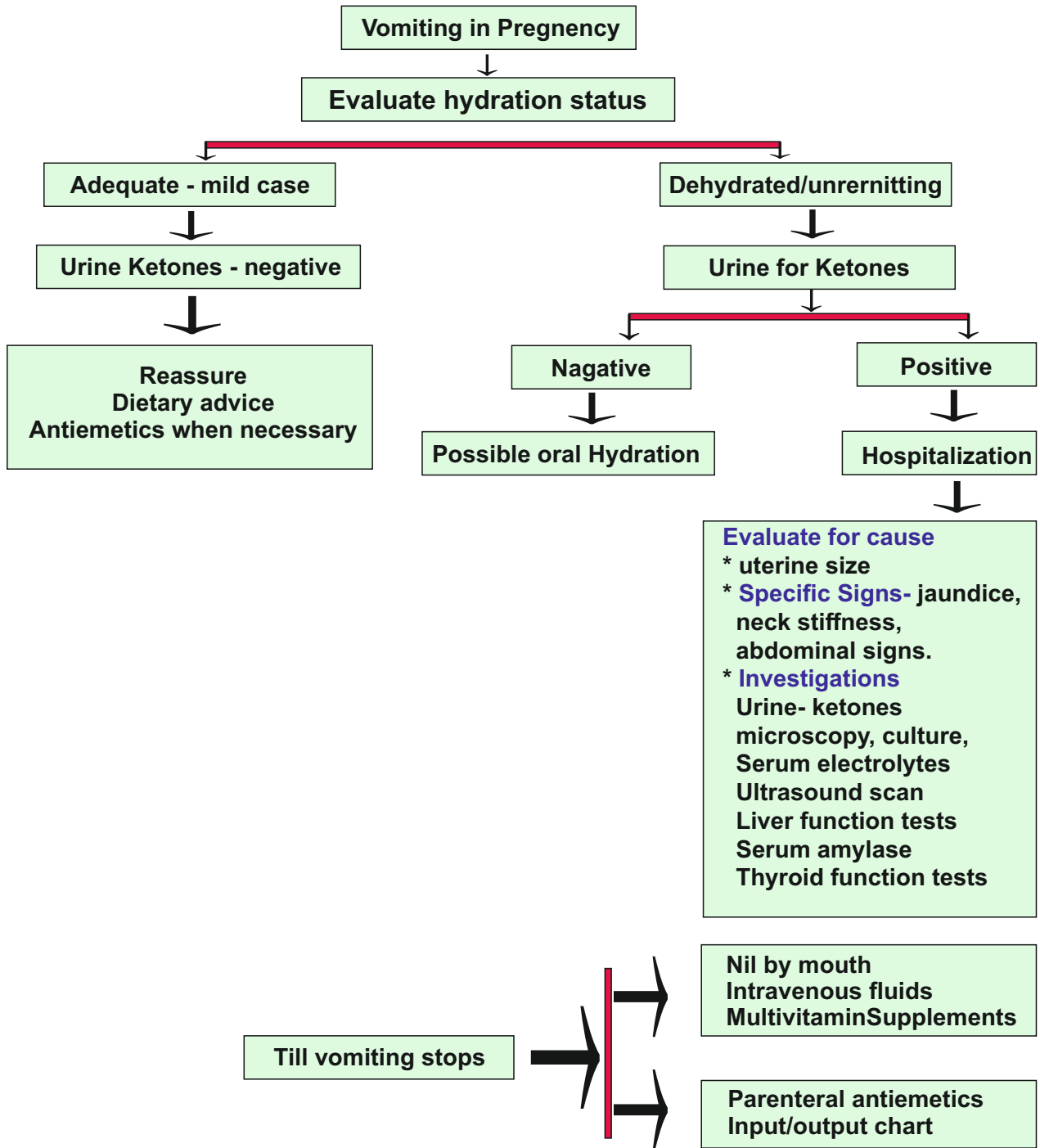
urinary ketons

- Oral infection avoided for at least 24-48 hours.
- Gradual feeding is started after 2-3 days, initially with oral fluids at frequent intervals
- Within a few days, the patient can be advised a normal solid diet.

**Management at a Primary Health Center (PHC)**

- A mild case of vomiting can be managed at the PHC.
- In severe cases, where signs of deterioration are present in the form of coffee-colored vomitus, icteric tinge and oliguria, initiate treatment (as above) before transferring the patient or seeking an expert opinion.

**For details see Flow chart 3.1**



## Blood Centre Services

A blood centre collects blood from donors, separates, tests and stores blood until a patient needs it. If you have donated blood before, you have been part of blood banking process.

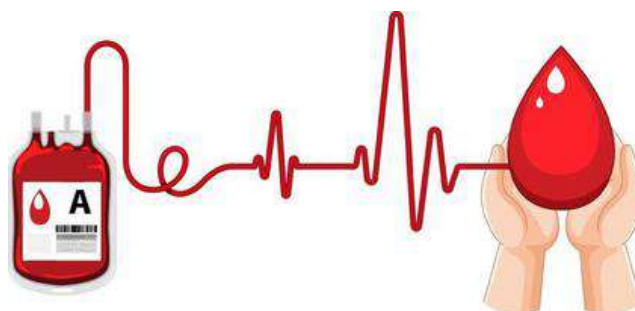
The first blood centre was established in 1937 by Dr. Benard Fantus at Cook County Hospital in Chicago. Blood is not manufactured in a factory. It is collected from a healthy human being who can donate up to 450 ml at a time and an interval of 3 months after previous donation. A donor can donate his blood at a voluntary blood donation camp or any medical institution. The purpose of donating blood is to save life for needy patients. Before donation the donor should reply all the medical screening criteria. After screening the donor is allowed for donating blood. After collection of whole blood, it is separated into different component products like Packed Red Blood Corpuscles (PRBC), Fresh Frozen Plasma (FFP), Platelets Concentrate (Conc. Plt), Cryo Precipitate etc. After preparation of these blood components, they are stored in a refrigerator maintaining a specified temperature described at WHO guideline. During blood collection the donor sample is collected in a pilot tube and it is sent for serological test in a blood centre which is mandatory. There are five tests which are mandatory for screening of blood namely HBsAg, HCV, HIV, Syphilis and Malaria. If any sero-reactive sample is detected after testing, that blood unit with all its components has to be discarded accordingly and inform to that donor for counseling. The blood centre counselor is responsible for that.

After screening the pilot blood sample is sent for grouping and after grouping blood and blood products are segregated and labeled as per group and stored at specified temperature described at WHO guideline. The blood groups are A, B, O, AB, RhD Positive and Negative. As per doctor requirement these blood components are transfused to the patients for getting better improvement. Now the patient's relatives collect the patient's blood sample along with a requisition form filled by RMO from the hospitals and



**Mr. Subrata Das**  
Medical Technologist  
Peoples Blood Centre  
(A unit of Peoples Medicare Foundation)

bring it to the blood centre for collecting compatible blood units. After getting the blood requisition form and samples of the patient the blood centre now performs the compatibility test by patient's sample with donor units. These tested blood units are now issued to patients for transfusion.



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GST No. 19AATI0290G2ZR



## FEBRUARY 2024

Date of Publication  
2nd February 2024

R.N. I. No.2756/1964

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Printed and Published by **Dr.Samarendra Kumar Basu**  
on behalf of Indian Medical Association  
and Printed at Prabaha, 45, Raja Rammohan Sarani, Kolkata-700009.  
Published from Sir Nilratan Sircar IMA House, 53 Sir Nilratan Sircar Sarani,  
(Creek Row), Kolkata-700014, INDIA. Hony. Editor **Dr. Kakali Sen**