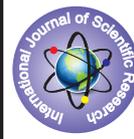


Family Health “Begin Before You Start” – Premarital screening”



Medicine

KEYWORDS:

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INTRODUCTION:

Medical screening has existed for about 60 years, and has a very rich history. The preclinical identification of disease has been a major component of modern medicine and public health. Marriage in ancient India consisted solely a sacred ceremony where a bride by her family is married to a groom of a well reputed family when there were minimal worries regarding transmission of STDs because of the then existed cultural trends, lesser literacy levels and female occupation rates, introversion of the community. Children born with ailments were considered to be a repercussion of a curse running through generations rather to see the hereditary component. Majority of these illnesses were sought an immediate cure rather than to be prevented. Evolution had implanted the seeds of curiosity in our minds. Today; research had become the bible for those who want to prevent a disease. We are independent, explorative and clement to be prone for a lot of other disorders to invade and this probably urges for screening oneself for infections and other diseases. Reasons like

1. Drift of the youngsters away from their family for various reasons
2. Changing trends due to the attractions drawn from different countries
3. Extroversion of the community - contributes to an initiative called premarital screening..

ANCIENT SCREENING:

Over the years, we see that HIV/AIDS epidemic has moved from urban to rural India and from the high-risk to the general population, affecting mostly the youth. Statistics also says that our country is the second largest such population in the world (1&2). This weighs the calibre of screening for STD as an exceeding part of a screening package. In a study conducted in Chengalpattu medical college (in the 1980s) to find out the impact of screening reproductive age group men and women attending the clinic inferred that the asymptomatic nature of a disease (eg, Herpes), could be the reason for the unflappable number of patients attending the STD clinic hence duress the need for intervening such a crowd by a primitive serological detection following which Wagner came up with VDRL for syphilis. A study in the United Kingdom by Suniti Solomon stated that the HIV has trickled into the general population via Antenatal mothers and Voluntary blood donors already (3). Studies demonstrated that the number of syphilis patients had dropped dramatically in the 90s and reduced the disease burden. Since 1960s, the routine serological testing programmes, including premarital screening tests and hospital required preadmission testing, were discontinued in many states. However, since the 1980s, a significant increase in incidence of syphilis has occurred, in particular among subgroups of people at high risk of HIV infections and hereditary disorders have also recorded increasing numbers as analysed by the increasing genetic component of the peri-natal mortality and morbidity rates over the years which could have been due to the curtailment of an effective screening in the community. None of the primal screening programme had aimed to screen a Soon-to-be married couple nor have succeeded in such a screen in other countries until recently, for each time a programme was invoked, it was backsliding due to its unfamiliarity that had fogged the public. Today, Safdarjung Hospital, one of the largest government facility in the New Delhi, India, gets a special clinic for pre-marital screening.

This table denotes the effectiveness of screening and its awareness through the years:

	Different period of time	Current status (2016)
Total people screened	433771 (in 2010)	694189
0-15 yrs living with AIDS	16596 (in 2014)	11975
People under ART	22735 (in 2010)	47979

Source: (4)

DEFINITION OF PREMARITAL SCREENING:

Premarital screening – the concept which rose in the globe in the mid 1800s and reached our country in the middle 1900s is now a popularising trend for the soon to be married. There is no WHO recognised definition but the well accepted one goes as “conducting examination for soon-to-be married in order to identify if there is any injury with genetic blood diseases such as sickle-cell anemia (SCA) and Thalassaemia, and some infectious diseases such as hepatitis B, C and HIV 'Aids'. This is in order to provide medical consultation on the odds of transmitting these diseases to the other marriage partner or the children in the future, and to give options and alternatives before soon-to-be married with the aim of helping them plan for a healthy, sound family.” (5)

Objectives of Premarital Screening:

- The healthy marriage program is considered a national, communal responsibility. So awareness and preventive program aims at:
- Limiting the spread of some genetic blood diseases: sickle-cell anemia (SCA) and thalassaemia, and some infectious diseases: hepatitis B, C and AIDS/HIV.
- Reducing the financial burdens resulting from the treatment of the injured in terms of the family and community.
- Reducing pressure over health institutions and blood banks.
- Avoiding the social and psychological problems for families whose children suffer.
- Making those seeking such a check-up feel at ease.
- Disseminating awareness with regard to the concept of the comprehensive, healthy marriage. (5)

Both the partners should carry out the tests with consent and results would be announced confidentially. Chances of repeating the tests will be based on the biased results and tailored to individual cases.

What tests are done in Premarital Screening?

Pre marital screening varies from one region to another depending on the prevalence of the diseases in that region. In general, it should be offered at three levels:

1. Basic package:

- Complete blood count (CBC)
- Blood group (ABO & Rh typing)
- Abnormal Haemoglobin studies (Hb Variants)
- G6PD- quantitative Sexually transmitted diseases,
- Sexually transmitted diseases,
 - a. HIV ½ antibody screening (3rd Generation)
 - b. Hepatitis BsAg screening
 - c. Hepatitis C Total Antibodies to Hep C Virus

- d. VDRL (Syphilis) (RPR)
- e. Gonorrhoea (Neisseria Gonorrhoea) detection by PCR
- f. Chlamydia Trachomatis (IgG and IgA)

2. Advanced Package:

- Basic Package
 - Male infertility test (CBC, FBS, PPBS, BUN, Urine rt, Semen rt, FSH, LH, Prolactin, Testosterone, ASAB, Chlamydia IgG/IgA)
 - Female Infertility test (CBC, FBS, PPBS, BUN, Urine rt, Blood group, FSH, LH, Prolactin, TSH, ASAB, Chlamydia IgG/IgA)
3. Advanced Genetic Package Includes:
- Basic Package
 - Male infertility test (CBC, FBS, PPBS, BUN, Urine rt, Semen rt, FSH, LH, Prolactin, Testosterone, ASAB, Chlamydia IgG/IgA)
 - Female Infertility test (CBC, FBS, PPBS, BUN, Urine rt, Blood group, FSH, LH, Prolactin, TSH, ASAB, Chlamydia IgG/IgA)
 - Karyotyping(6)

The test costs average 5000 INR approx. in our set up currently. Baseline tests are free of cost in nearby primary health centres in India.

NEED FOR TESTING ONESELF PREMARITALLY:

Consanguinity is quite popular in the rural suburbs who tend to have low literacy rate, inadequate health budget and awareness. A common man in India is not being taught the nature of the hereditary disease or its etiology, risk factors and consequences until he has a disease himself which are all the major reasons for rise in prevalence of familial disorders. (7). Major part of our medical science had been dealing with curing rather than prevention so far.

Now who should be blamed for the ignorance?

The man? The doctor? The government?

How is a man who is HIV positive treated like in the community? There is a lot of stigmatization towards those infected with HIV. "In India, there is stigma associated with diseases. Couples, both men and women, often try to hide their ailments before marriage fearing rejection," said Dr. Suneeta Mittal, director of OG, Gurgaon's Fortis Memorial Research Institute (FMRI) (8). A recent study conducted by the World Health Organization shows that 40 per cent of people suffering from HIV are not aware of their positive status. This is a serious concern in today's ever-growing and dynamic society. The benefits of early testing allows a person to reduce high-risk behaviour which may lead to the spread of the infection and also allow a person to seek medical help before their health deteriorates further (9). It is important to note that a lot of people with a positive HIV status do not take medications due to the fear of being judged. It is time to stop judging people because of this because all these diseases both infectious and hereditary often go undiagnosed and untreated, and when left untreated, they lead to complications (10) which will lead to marital discordance if left unscreened prior to marriage. Hence the above discussed issues put forth an idea that it is better to screen oneself in the pre-marital period rather than write later - thereby, prioritizing its utmost need.

CURRENT POLICIES AROUND THE GLOBE:

Important prevention strategies include raising awareness about the disease in the general population, condom promotion, blood safety, and prevention of parent-to-child transmission. Premarital testing could be an additional strategy for controlling the spread of various infections and genetic diseases. It may help prevent the transmission of infection from an HIV-positive person to an HIV-negative partner. It is imperative that HIV/AIDS prevention and control programs take this fact into account if they are to design interventions that can attract population groups unlikely to use existing services. One of the preventive measures is this pre-marital blood screening for people planning for marriage. Pre-marital blood screening helps couples to identify potential health problems and risks for themselves and also their offspring, so it is essential for them

to be screened in order to help them take necessary precautions or treatments. Some Chinese scholars have argued that the compulsory policy should be restored or a new mode of participation and screening should be considered. Given current policy, appropriate measures should be taken to improve the people's knowledge and awareness of and attitudes towards PMS so as to increase participation rates.

TARGET FOR PREMARITAL SCREENING IN OUR COUNTRY AND IN OTHER COUNTRIES:

STD prevention is the major target for premarital screening in our population whereas the screening is being tailored to the need of the population. In the region of the Arabian Gulf, consanguineous marriages represent up to 60% of all unions, and are believed to be a major factor in increasing the magnitude of hereditary disorders in the area. The population of the region is characterized by large family size, advanced maternal and paternal ages, and a high level of inbreeding with consanguinity rates in the range of 25-60%. A screening program for genetic carriers is a systematic attempt to identify and counsel as many people, at a genetic risk in a given population as possible, whether or not they have a family history of a genetic disorder. Several countries in both the Arab region and the Mediterranean have introduced premarital screening for hemoglobinopathies. Countries like Bahrain, Iran, and Cyprus proved the effectiveness of such programs in decreasing the incidence of the diseases tested for. (11)

WHO IS THE FIRST TARGET FOR AN EFFECTIVE SCREENING PROGRAMME?

The research conducted in Karachi, Pakistan by Nabila et al., among medical and non-medical students regarding the awareness of premarital screening proved that Medical students have better approach and attitude towards pre-marital screening and its implementation as compared to non-medical students. This study heralded the narrow mindedness of their society considering screening as a taboo (12). Medical students favoured mandatory screening of partner prior marriage and its compulsion in their society and its paramount importance. This proves the NEED FOR CREATING AWARENESS FIRST AMONG MEDICAL PROFESSIONALS WHO WOULD BE THE DIRECT LINK TO THE COMMUNITY.

NEED FOR RAISING AWARENESS ON PREMARITAL SCREENING AMONG INDIAN COMMUNITY AT LARGE:

Manirakiza, a leading African journalist says that even if the number of the people screened continues to increase, there is still a need for greater awareness of how to reach the three (90-90-90). "We want to meet the 90-90-90 global goal of mobilizing the population so that 90% of HIV/AIDS infected people know it, 90% of them be on effective and efficient antiretroviral treatment and 90% of them become undetected by 2020," he says. Awareness programs regarding STDs and their screening should be conducted at government and private sectors including institutes, hospitals, offices and schools which can change the behaviour and attitude towards screening prior to marriage since Marrying a carrier of these illnesses places spouse and their child at risk of acquiring infection. (12)

ACCEPTANCE AND ATTITUDE

Since premarital testing is done on members of the general population and not on any particular high-risk group, acceptance by the general population is crucial. According to Misiri et al., not all population groups have an equal likelihood of accepting a public health intervention such as voluntary counselling and testing prior to marriage. Pre-marital screening was not implemented in Pakistan due to social culture and lack of infrastructure of health and reporting system. Not all population groups have an equal likelihood of accepting voluntary counselling and testing. Public health intervention on pre-marital counselling and testing should be tailored specifically for each population group. According to a study by Zachariah et al. in rural Malawi, approximately 77% of those presenting for voluntary counselling and testing had done so because of the encouragement of others who had taken such test (13).

BARRIERS IN IMPLEMENTATION:

1. HUMAN RIGHTS INFRINGEMENT: It is a breach of human rights to force someone to get tested; testing should always be voluntary," said Jeanne Gapiya Niyonzima, a leading AIDS activist in Burundi and the first person in the country to publicly declare her HIV status. "It is good that the church is supporting testing, but this is the wrong way to do it." (14). Study in Illinois on mandatory testing concluded that mandatory premarital testing decreased marriages in Illinois; and that the requirement increased cross-over marriages in states bordering Illinois. Additional analyses investigated the claim that the frequency of marriages in Illinois has rebounded now that premarital testing is no longer mandatory. (15) During the first 6 months of legislatively mandated premarital testing for human immunodeficiency virus in Illinois, the number of marriage licenses issued in Illinois decreased by 22.5%, while the number of licenses issued to Illinois residents in surrounding states increased significantly. (16). In Saudi Arabia, the national premarital screening (PMS) program is mandatory (17).

2. RELIABILITY OF THE TESTS: One of the important questions is, what happens if a person is in the 'window period' (HIV) at the time of premarital HIV testing? It becomes necessary to repeat HIV testing for both the proposed partners 3-4 months after the first test. This particular solution is difficult to implement practically. (18)

3. CONTROVERSIES IN INDIA: As we know, Voluntary and confidential testing, and especially pre-test and post-test counselling, should form the basis of premarital testing. However, Mandatory pre-marital screening could generate social stigmatization and infringement of the fundamental human rights of infected individuals. (19). Chennai (India), Aug 28, 2014: Madras High Court has suggested the government to make a law under which premarital test for impotency and Sexual-transmitted Disease (STD) would be mandatory in the country suggesting the government to make the law. Justice N Kirubakaran claimed that such move would bring down divorce petitions drastically on account of impotence, which the court felt was on the rise (20).

DISCUSSION:

From the above discussed issues we infer that, Enforcement of such a screen prior to marriage necessitates higher awareness levels among the providers and undertakers, appropriate tests relevant to community, confidentiality, cost effectiveness of the package provided, grass root level accessibility and complete reliability can be claimed with proper pre and post test counselling. All of these could have been the reason for success in countries that had mandated the pre-marital screening. Considering the Indian social scenario we feel that in our country marriage bureaus are well placed to encourage premarital counselling and testing, maintaining confidentiality, encourage, rise awareness among medicos and public, help public avail services offered in the Primary Health Centres. We suggest a lead role for the medical professionals in popularizing the practice. Also Resources should be utilized in a broad sustained manner. Mass media can be used to create a positive attitude towards prevention. Other research indicates that educational programs can considerably improve people's knowledge of PMS (21). Certain strategies are being implemented in other countries to enhance the rates of premarital voluntary screening and counselling. Such strategies include providing PMS knowledge by mass media, a special fund for PMS, a counselling hotline, and providing PMS completely free of charge. (21). Individuals living in the urban areas were 1.74 times more likely than rural dwellers to accept voluntary counselling and testing prior to marriage. A study from Mali (West Africa) by Maman et al reported that reluctance to undergo HIV testing is associated with the need for confidentiality. (22) In a study conducted by Roger et al. The top three reasons why a participant would not be willing to be tested for HIV were: 'no risky behaviours' (86.5%), 'do not have time' (9.8%), and 'afraid of being seen by friends' (7.5%). (23) Regarding the quality of the counselling received in pre-test centres to make a successful implementation move, the following makes a good example. A study conducted among the awareness of medicos in

Saudi medical university showed that it was particularly striking more significant was the fact that when question on PMS was posed among the subgroup of students who actually had the test themselves, less than half of them answered correctly, making one question whether these individuals received genetic counselling prior to, or after testing, and if so, what was the quality of counselling which contrasts sharply with the original principles of the national PMS, where the informed decision should follow appropriate genetic counselling covering all aspects of relevance, and where the clients are expected to receive an adequate explanation of the inheritance pattern in the light of results. (17)

Comparing the above works one with the other and extrapolating it to Indian setup 8 important things hits our brains for implementation of premarital screening,

- 1. The need for educational awareness among the medical professionals regarding premarital screening
- 2. Cost effective strategy development for low cost package that should be available at the primary health centres
- 3. Need for better training at grass root level for community education
- 4. Better public awareness through mass media regarding the importance of premarital testing
- 5. Methods to maintain confidentiality regarding the test results should be subjected to intense evaluation
- 6. Concept of e-results and private documentation maintenance should be one of the research tasks
- 7. Increase awareness among youth through social media
- 8. Conduct further studies tailoring it to the Indian suburbs and work on an effective strategy development

While premarital testing is one of the tools for protection of a marriage and prevent sero-discordance between couples, it will only work in India if it is coupled with measures to generate awareness about the screening methods and programmes among the general population. Correct and in-depth awareness regarding PMS may eventually create a scenario where people will voluntarily opt for premarital testing and match test results, just like they match caste, kundali /patrika, etc., before finalizing an arranged marriage. (18) Guidelines for the management of test-positive individuals and discordant couples and the safeguarding of confidentiality should be developed (20) Improving educational programs and including PMS in various curricula in both high school and university contexts may be important in increasing knowledge and awareness. Educational programs for PMS have proven to be effective in other settings (21). Doubts on an effective implementation are multitude some of which would be left unanswered due to our economic status. But this drift is to make these strategies propitious and downturn the encumbrance of the populace.

CONCLUSION:

The need for pre-marital screening is obvious. What we need to speculate is the effectiveness of the methods and benefits being yielded at a lower budget. One needs to focus on the importance of such a screening and improvise the level of awareness among public of which the medical professionals needs to be placed at the ladder top. Making pre-marital screening mandatory without an effective road to sophistication would lead to jeopardy. Hence letting the people decide what they want after creating an apt environment to go for it and creating an attitude change through mass communication would be the only possible implementation strategy for premarital screening in India presently.

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