

marie claire health reportage

It was on a routine visit to her gynaecologist during her second pregnancy that Shalina Vichitra chanced upon some leaflets about umbilical cord stem cell banking. They told her how the firm would store the cord blood – rich in stem cells that can repair damaged tissue – for future use in the event of her child suffering from degenerative diseases. Curious, Shalina enquired with her doctor who advised her that it was a good investment to make if one could afford it. The procedure would cost the couple roughly Rs 70,000, but Shalina was convinced that it was worth it. Not that she or her husband had a family history of a serious disease. “If you think of all the money we spend on improving our lifestyles, on travelling and other sundry expenses, this is a small price to pay for good health,” she says emphatically, overjoyed to know that her older child too can benefit from the stem cells. The fee was steep, but the couple decided to take up an instalment option and go ahead with the ‘investment’.

Pooja Bhanot*, a 29-year-old, made another wise investment. Her mother had lost a breast to cancer when Pooja was a teenager. Now, on the verge of turning 30, Pooja decided to go for the rather expensive diagnostic which



DIAGNOSE PREDICT PREVENT

A timely guide for genetic testing as an investment in health. By Priyamvada Kowshik

122 | marie claire india | june 2009

Be smart Stay healthy

- You can test for changes in your genes that predict high-risk diseases like breast cancer. Advisable if you have a family history of the disease.
- You can order DNA/RNA-based diagnostics for infectious diseases. Advisable if you are exposed to high-risk areas or show long-term symptoms of infections.
- You can go for personalised medicine tailored to your individual genes, instead of umbrella cures. In UK, for instance, DNA-testing helped hundreds of diabetes patients switch from insulin injections to cheaper, more effective drugs after a simple test showed that they had a particular genetic form of the disorder.

would reveal the probability of her developing the cancer.

It's a trend that is steadily growing in urban India. Making an 'investment' which promises good health. And it's to do with more than simply paying your health insurance premiums. Instead, what you're paying for is predictive diagnostics tailored to help you zoom into the future to know what disease may strike you; or rewind into the past to locate a truant gene in your family's genetic pool, that may hold the possibility of ruining your health. Or like in the case of cord-blood banking, keeping in cold freeze a tool that may have the potential to fight cancers, degenerative diseases like Parkinson's, injuries to vital organs, burns, arthritis and even diabetes.

It's a new era of healthcare that puts your future under the microscope. Predictive diagnostics, preventive therapeutics and personalised therapy are giving the field of medicine a complete makeover. Where doctors don't just treat, they predict. Like an astrologer's parrot that picks a card which holds your future, they employ high-end diagnostics to foretell what's to come.

Urban India's engagement with

health is not uncalled for. We're a nation that is growing obese and unhealthy. We're the diabetes capital of the world; carry the highest burden of cervical cancer; and are home to 60 per cent of the world's heart-disease patients. And while our sedentary lifestyles and growing affinity to junk food is a major factor, there is more to it. A report in *Diabetes Voice*, which provides a global perspective on diabetes, says that Asian Indians living in different parts of the world too have reported a higher prevalence of diabetes than the ethnic groups living in the same countries. “Similarly, prevalence of Thalassemia is high among North Indians,” says Dr I.C. Verma, head of department of the genetics department at Sir Gangaram Hospital. The department has done pioneering work in diagnostic tests by gene sequencing.

Of course, the tests demand certain affluence, in a country where a majority of the population lacks even basic healthcare. According to a PricewaterhouseCoopers report on the emerging healthcare market in India, in 2007, the private sector accounted for more than 80 per cent of total healthcare spending in India. More and more of us are willing to spend on procedures that will keep us living longer and staying healthier. “It's interesting to note that the trend has filtered into smaller towns across India too,” says Mayur Abhaya, executive director of LifeCell, India's first cord blood bank, which has 40 centres across the country.

This new trend is blurring boundaries and getting into newer territories like wellness. No longer limited to a relaxing spa massage, you can now order wellness tests that diagnose your pre-disposition to diseases like osteoporosis, diabetes, thyroid and heart disease even before you get sick.

“These tests tell you how to minimise the possibility of occurrence. They are user-friendly and can be ordered by anyone, and also tell you what kind of follow up actions can be taken even before ▶

“Zoom into the future to know what disease might strike or rewind into the past to locate a truant gene

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“Will we use predictive diagnostics to empower ourselves, or become medical junkies shopping for health?”

ago, DNA has been in the news. In the past few years, there have been a flurry of websites that promise to help trace your family ancestry and lost genetic cousins with a mere cheek-swab test. Despite this, DNA tests had not been a routine medical tool for most of us. But that's about to change.

At Reliance Life Sciences, Mumbai, DNA/RNA-based diagnostics are now used to detect and assess the viral or bacterial load of infectious agents like HIV, HPV, hepatitis B and C virus, chikungunya, tuberculosis and malarial parasites, says K.V. Subramaniam, president and CEO. They also have the technology to detect mutations in genes. This means that any changes in the genetic make-up which may be an indicator of high risk of diseases,

like breast cancer and certain strains of leukaemia or even male infertility, will show up. The tests for infectious diseases are priced generally between Rs 1,000 to Rs 3,000. But this is largely dependent on the number of genes to be screened and could go up to Rs 10,000.

Diagnostic services are also creating online communities which allow individuals to interact with peers on health-related topics, discuss problems on forums and blogs, access medical experts or learn more about disease through health libraries.

The trend is not without sceptics. “Why is it necessary to know the genetic disease potential when there is no family history?” questions Dr Puneet Bedi, a Delhi-based gynaecologist. While advising a balanced approach, a doctor at Quest narrates the case of a young woman in the US who had a highly advanced predictive test for breast cancer; when it showed a slight probability, she got both breasts surgically removed for fear of developing cancer decades later.

Will we use it to empower ourselves, or become medical junkies shopping for good health? Predictive diagnostics raises questions in its answers. ■

“You have visited the doctor,” says Dr P.K. Menon, senior medical director, Quest Diagnostics, which recently began India operations by launching their Gurgaon centre.

Some may call it intelligent marketing of healthcare. Others look at it as a matter of convenience. Still others with a family history of a disease may look at it as a tool to control their health. But high-end diagnostics, as the name suggests, also comes at a fat price. They range from anywhere between a few thousands to a few lacs.

These are a step ahead of even the ‘gold standards’ that are routinely available in laboratories today. For instance in osteoporosis, which is common among menopausal Indian women, by the time a bone density test detects bone deterioration, almost 30 per cent of loss is already done. Instead, there's now a more accurate test for checking levels of calcium and vitamin D. “This will help the woman take precautions from a much earlier stage so she does

not end up with brittle bones,” says Dr Menon. Diagnostics offer solutions to several other women's health concerns like breast cancer, thyroid and cervical cancer. Here, the most updated method of ‘liquid-based cytology’ coupled with the regular PAP smear test makes it far more accurate. “It is 99 per cent predictive for cervical cancer, the only cancer which is totally curable with vaccination on early detection,” adds Dr Menon.

There are more ways to put these techniques to use. Imagine getting an overview of your entire organ system... are you likely to get heart disease? Can your irregular periods be linked to a thyroid disease? Yes, high-end labs like Quest can now create a complete health profile. They take into account lab tests and variables like age, blood pressure, body mass index, et cetera, to create complete health-risk profiles.

Ever since its complex double-helix structure was discovered by physicists Watson and Crick about five decades

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