

# Role of Nurse in Genetics

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**G**enetic nursing practice is a speciality which needs to be adequately explored. All areas of nursing practice have been impacted by recent advances in genetic knowledge and technology. Nearly all diseases are now recognised to have a genetic component. Its time that nursing has to be seen in relation to genetic perspective so as to play a more meaningful role in future.

## Advances in Genetics

Genetics services have been primarily associated with pre-natal genetic counselling, identification of paediatric disorders associated with birth defects and dysmorphism, and in some cases rare adult onset single gene disorders. Recent genetic and technological advances are helping us better understand how genetic changes impact human variation as well as the development of cancer, Alzheimer's, diabetes and other multifactorial diseases that are prevalent in adults. The research from the Human Genome Project is providing a new and better understanding of the genetic contribution to disease, the development of targeted drug therapy and the genetic tests that identify those who may have or be at risk for genetic diseases.

Nurses now provide education to patients about heredi-

tary risk for developing disease, counsel about the benefits and risks associated with genetic testing, and manage disease risk based on genetic information. The recent development of commercial testing for susceptibility genes (such as the predisposition genes for breast ovarian cancer syndrome and colon cancer) have had a great impact on the role of nursing in the identification and management of individuals at risk for developing many diseases.

The nurses' role today in managing genetic information and caring for individuals and families at risk for or diagnosed with genetic diseases or conditions is much broader.

The influence of recent genetic advances on nursing practice is especially evident in oncology. Oncology nurses practicing in cancer prevention and control apply genetic principles to their clinical practice daily. For example, they assess hereditary and non-hereditary cancer risk factors, take detailed family histories and construct pedigrees, identify individuals and families at risk for hereditary cancer syndromes, make recommendations for cancer risk reduction, surveillance, and management, and when appropriate, counsel and educate about the risks and benefits of genetic testing.

## Role of nurse in genetics:

- Take detailed family history
- Construct pedigrees
- Assess hereditary and non-

hereditary risk factors related to genetic diseases, or diseases with a genetic component

- Provide genetic information to individuals and families
- Interpret genetic tests and laboratory data
- Manage and care for patients and families at risk for or affected by genetic diseases or diseases with a genetic component
- Provide genetic counselling, genetic consultation, and case management for persons with complex genetic health care needs.

For example, if a woman is concerned about her breast cancer risk and wants to know whether she should undergo genetic testing for its susceptibility, a nurse could provide genetic education about breast cancer susceptibility genes, take a detailed family history and construct a pedigree, assess the women's hereditary and non-hereditary cancer risk factors, and inform about the risks and benefits of genetic testing.

The genetic nurse could also provide information about the woman's breast cancer risk compared to the general population and estimate the probability she may carry a mutation in either the BRCA1 or BRCA2 gene, which is associated with a greatly increased risk for both breast and ovarian cancer. Whether or not the woman chose to pursue genetic testing, the genetic nurse could make recommendations for

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breast cancer risk reduction and surveillance as well as refer her to appropriate community resources.

Shickle et al agreed in their study that at present genetics services provided in primary care may be at limited level, but this trend is likely to change in the near future. The role of nurse in genetics should be evaluated

as a means of providing genetics specialist outreach support for service delivery and to facilitate education.

Large amount of genetic information is currently available and this can be made use of on a large scale. Genetic changes contribute to most, if not all diseases, hence the scope of application of genetic knowledge in nursing is limitless.

## References

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## STUDENTS FORUM



**Alva's College of Nursing, Moodbidri :** Sports day of the College was organised on 8 June 2010 at Swaraj Maidan. Around 470 students of the institute were present at the occasion. Dr GH Prabhakar Shetty, Admn Officer of the Alva's Education Foundation was the chief guest. Prof BA Yathikumara Swamy Gowda, Principal, Alva's College of Nursing (CAN) and Mr Shivaram, Physical Director, Alva's Education Foundation also graced the occasion. Welcome speech was delivered by Mrs Komala, Lecturer, CAN, followed by the march past by the students in colourful uniforms. The chief guest addressed the gathering on the importance of sports and said that participation in games is more important than winning. The chief guest of the closing ceremony was Mrs KJ Rosa, Principal, Alva's Institute of Nursing Sciences and Prof BA Yathikumara Swamy Gowda, Principal, Alva's College of Nursing presided over the function. It was followed by distribution of prizes by the chief guest. I year BSc Nursing got the first place in march past and II year BSc Nursing got the second place. Individual championship winners were : Mr Renju James of II PC BSc nursing and Ms Dona Mariyet of IV BSc Nursing. Mrs. Julie rendered the vote of thanks.

**New Mangalore College of Nursing, Mangalore :** The lamplighting ceremony and graduation ceremony was held on 30 January 2010. Dr Sanjeev Rai B, Chief of Medical Services, Fr Muller's Medical College Hospital, Mangalore inaugurated the function and delivered the message of



the day. Sr Lorendana Korah, Nsg Director, St Ann's Inst of Nsg delivered the keynotes and presented the awards and medals. Prof Savitha P Cutinho, Principal New Mangalore College of Nursing administered the Nurses' Pledge. The presidential address was given by Mr UK Khalid, Admn Officer.

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Chief Editor