Simple online tool to aid GPs in early ovarian cancer diagnosis

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The lives of hundreds of women could be saved every year, thanks to a simple online calculator that could help GPs identify women most at risk of having ovarian cancer at a much earlier stage.

Academics from The University of Nottingham and ClinRisk Ltd have developed a new QCancer algorithm using the UK QResearch database. The new algorithm assesses a combination of patients' symptoms and risk factors to red flag those most likely to have ovarian cancer and enable them to be referred for further investigation or treatment at a much earlier stage.

A study into the effectiveness of the algorithm, published online this week at BMJ.com, has shown that it was successful in predicting almost two-thirds of ovarian cancers in the 10 per cent of women who were most at risk of having the disease over a two year period.

Leading the research, Professor Julia Hippisley-Cox, said: "Ovarian cancer is notoriously difficult to spot and we hope that this new tool will help GPs identify patients most at risk of having ovarian cancer for early referral and investigations."

Ovarian cancer is the seventh most common cancer in women worldwide and affects around 6,700 women in the UK every year, one of the highest rates in Europe. Most women are diagnosed when the disease is already at an advanced stage, meaning that in many cases their chances of surviving for five years after diagnosis can be as low as six per cent.

Less than one-third of women are diagnosed in the first stages of the disease but of those 90 per cent will survive to five years, showing that earlier diagnosis and treatment can have a dramatic impact on the patient's chances of survival.

However, GPs are faced with the tough challenge of making a correct diagnosis as early as possible for a disease which has few established risk factors and a range of non-specific symptoms such as loss of appetite, weight loss and abdominal pain which could also point to a number of less serious and more common conditions.

For the study, the academics used anonymous data from 564 GPs surgeries using the QResearch® database system — a not-for-profit partnership between The University of Nottingham and leading GPs systems supplier EMIS.

They included information for female patients aged 30 to 84 who had not previously been diagnosed with ovarian cancer and did not have one of a number of 'red flag' symptoms in the previous 12 months.

They assessed risk factors including age, family history, previous diagnosis of other forms of cancer, loss of appetite, weight loss, abdominal distension, rectal bleeding, postmenopausal bleeding and anaemia to predict which patients were most at risk of having ovarian cancer and combined these in the risk prediction algorithm.

The tool was successful in predicting 63 per cent of all ovarian cancers over the following two years which were in the top 10 per cent of women found to be most at risk.

In addition to detecting cancer at an earlier stage, the tool could help GPs to direct their scarce resources such as ultrasonography, MRI scans and blood tests, to the patients more urgently in need of further

investigation.

It is in line with current Government policy and the National Awareness and Early Diagnosis Initiative (NAEDI) — a public/third sector partnership between the Department of Health, National Cancer Action Team and Cancer Research UK.

The simple web-based calculator — http://www.qcancer.org/ovary — is designed for doctors but a simpler version could also be made available on the internet to raise awareness among the general public and to prompt women with risk factors or symptoms to seek advice from their doctor. It could also be integrated into GP clinical computer systems for use during the consultation or for identifying patients with combinations of symptoms needing further assessment.

Similar scores using QResearch® have already proven effective in previous research in identifying patients at most risk of developing lung cancer, gastro-oesophageal cancer, bowel cancer, pancreatic cancer, heart disease, type 2 diabetes, fractures, kidney disease and serious blood clots.

Professor Hippisley-Cox added: "We are very grateful for the continuing support of the EMIS GP practices that contribute their high quality data to QResearch. Without them, our research would not be possible."

Provided by University of Nottingham