New online tool provides more efficient way for professionals to monitor diet

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Research carried out to prove the validity of the new myfood24 online diet monitoring tool has shown it is as effective as similar tools already available to health care practitioners, researchers and educators, and

more efficient to use.

In 2017, Dietary Assessment Limited was launched as a University of Leeds spin out company to continue the development of myfood24. Users of this tool can record their food and drink intake by selecting items and portion sizes from the extensive database.

The database was created by mapping two datasets: "back of pack" food label data included on most supermarket foods, such as energy, fat, protein and fibre and UK food composition tables which provided information on more than 100 additional nutrients. Reports are generated in in real time and give a comprehensive breakdown of attributes like vitamins and minerals.

The academics who developed myfood24 have carried out the latest round of research to compare its performance with the traditional interviewer-administered dietary survey and to check it was providing the same quality of data for clinicians as traditional surveying and biomarker evidence.

The results of the study have been independently peer reviewed and are published in the academic journal *BMC Medicine*. More than 200 adults recorded 24 hours of data three times over a month, using myfood24, alongside an existing interviewer-administered dietary assessment method to achieve an estimate of longer-term diet.

The results gathered from both myfood24 and from the standard interview-led method were then assessed against biomarkers taken from urine samples which acted as the gold standard measures for protein, potassium, sodium, sugars, vitamin C, vitamin E and β-carotene. To measure energy, the researchers compared total energy intake to an objective measure of total energy expenditure, using accelerometers.

Professor Janet Cade, Head of the Nutritional Epidemiology Group at the University's School of Food Science and Nutrition, said: "We were pleased to find the evidence showed that myfood24 gave broadly similar answers to the interviewer-based dietary recall with which many NHS staff would be familiar but which takes longer to use and is less efficient for workers.

"We would not expect either of the tools to agree exactly with the biomarkers as these provide very precise measures of nutrient availability in the body and often beyond that which can be achieved by dietary assessments. Proving that myfood24 gives similar levels of detail to long-standing methods of dietary examination opens the prospect of hospitals and GPs adopting it to save time and free up staff to carry out other work."

Dr. Darren Greenwood, Senior Lecturer in Biostatistics at the University of Leeds, added: "Our findings show myfood24's results are comparable to the more time-consuming and costly interviewer-based approach across a range of measures. Ultimately, myfood24 was compared to gold standard measures of nutrients in the blood and it passed the test: We have a valid, reliable tool for measuring diet."

myfood24 has already been used to measure people's dietary intake by more than 20 organisations including some in Germany, Denmark and Australia where country-specific versions have been created. It was developed by the researchers to support academic research into dietary intake and diet-related disease.

myfood24 has wide application in research, education and clinical use. A version designed to support classroom learning is currently in use on degree courses in several universities.

The team is currently tailoring myfood24 to clinical settings such as the

NHS to be used by health professionals to quickly and accurately measure diet. The aim is to empower patients to better self-manage health conditions, improve their health literacy and lead to the prevention of diet-related disease.

Diet is linked to a wide range of diseases, accurately measuring the nutritional value of an individual's consumption can help to devise healthy eating plans and advance dietary research.

More information: Petra A. Wark et al. Validity of an online 24-h recall tool (myfood24) for dietary assessment in population studies: comparison with biomarkers and standard interviews, *BMC Medicine* (2018). DOI: 10.1186/s12916-018-1113-8

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