Sir,

Accuracy in vitamin D measurement is very important because methods used by various laboratories have no uniformities; of course it is choice of individuals but quality in care matters. There are five different types of Vitamin D but D$_2$ and D$_3$ are the only types that human can use. Earlier researchers have documented that vitamin D$_3$ is better absorbed and utilized than D$_2$. Studies have showed that vitamin D promoting normal blood glycation, immunity, mood swing and other unusual clinical conditions. It is observed from many reports that the effectiveness of D$_3$ provides the most benefit for the human body but there is quite variations in predictive values of different methods.

Adolf Windaus, studied medicine in Berlin, then switched to chemistry, received Nobel Prize for Chemistry in 1928 for his novel discovery on the constitution of the sterols and their connection with vitamins. Afterward various researchers conducted studies on critical & essential use of vitamin D, 90 studies in Europe, 38 in North America, 3 from South America, 36 from Asia Pacific; Middle East & Africa 19 etc showed that more than 50% population is deficient in vitamin D level in blood. Most of the studies concentrate on whether D$_2$ is better than D$_3$ for diagnosis & which is better for treatment point of view. Very few core researchers discuss about technology imparted in measurement of vitamin D, (D$_2$ or D$_3$).

Biologically vitamin D deficiency or sufficiency should be measured by their circulating level of 25 (OH) D. Variety of methods & techniques are used to measure 25(OH) D. The competitive protein binding assays (CPB, 1970), high performance liquid chromatography (HPLC, mid 1970) and radioimmunnoassay (RIA, 1985) for 25(OH)D are the gold standard assays in detecting vitamin D deficiency and sufficiency. However, due to their demerits these assays are fraught with technical difficulties like radioactivity, skill etc. are not routinely used.

To avoid radioactivity and shelf-life of radioactive labels these methods superseded in immunoassayss new simple assays spectrophotometry, EIA, chemiluminescent immune assay (CLIA), extended CLIA used to measure vitamin D but these assays have limitations of sensitivity and specificity. All demerits of above assays overcome by tandem mass spectrometry, introduced LC–MS/MS in 2004 for measuring vitamin D metabolites. LC-MS/MS is significantly more sensitive than any other method so use of this methodology is increasing.

Apart from shortfalls in methodologies it was observed that there is huge media coverage of vitamin D and how vitamin D is important in health and the need for supplements were portrayed. Objectives of media may raise issue for betterment of society but framing of quotes like “adequate vitamin D is necessary for good health” downplayed the limitations.

Researcher’s surveyed 294 print articles from popular publishing houses from western countries found that supplementation of vitamin were recommended to general healthy population. Many clinical conditions linked to serious health issues without scientific evidence. Media houses overlooked limitations of health sciences and potential risk of over supplementations.

To summarize, biological values of analyte, vitamin D in this case, is of prime concern. Picturnizing data from various sources definitely gives directives to concern authority, but authentic data pooled from reliable domain will implicate it significantly. Though high end methods are too expensive but health of individuals is also precise & cannot be compensated. So selection of technology is equally important for better delivery of health care. Role of media & researchers need to be unbiased in delivering correct information.

Meena K. Yadav$^1$, Ali Netterwala$^2$, K. S. Yadav$^2*$

$^1$School of Ayurveda, $^2$School of Medicine, D. Y. Patil University, Navi Mumbai 400706 India

*Correspondence to: Dr. K. S. Yadav, E-mail: ksy_rahul@rediffmail.com

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