Plight of higher education in India

Ashokan[1] and Virk[2] have highlighted the plight of higher education in India. Mushrooming growth of self-aided colleges, deemed universities, colleges with autonomous status and the rest have not come to the rescue of the student community to achieve what it rightly desires and deserves. Perhaps, the order of the day is to trade on subjects with different catchy names, enticing the plethora of students. Distance education is a massive factor in the dilution of higher education. Clearing UGC/CSIR/NET is tough because the syllabus framed for a subject by different universities is not the same. UGC alone can serve as a placebo and warrant for a uniform syllabus all over India for any specified subject for the benefit of students.

Teachers should not be promoted based on the completion of orientation and refresher courses that they have attended. An assortment of factors like performance appraisal, projects undertaken, research activities, publication of papers, symposia or workshops attended could be used as tools for promotion. By doing so, UGC can also conserve its resources only to channelize them for other useful activities. UGC can organize orientation courses on a routine basis for all candidates aspiring to enter the portals of higher education and emphasize it as a pre-requisite for appointment. It is high time UGC revamps the entire system of higher education to cater to the needs of the student community.

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Monitoring of chloroquine-resistant malaria

Drug resistance and in particular chloroquine resistance is a major public health problem in the control of malaria. Resistance of *Plasmodium falciparum* to chloroquine is now widespread in many areas of the world. Reports of chloroquine-resistant *P. vivax* are beginning to emerge. The four criteria proposed by WHO for the definition and identification of drug resistance are: (i) clinical treatment outcome following antimalarial drug therapy, (ii) *in vitro* susceptibility profile of the parasites compatible with defined drug-resistance levels, (iii) determination of drug concentrations in whole blood to confirm adequate concentrations of administered drug in circulating blood during treatment and at the time of reappearance of parasites and (iv) presence of molecular markers to confirm and associate with clinical-resistant infection. Comparison of the data produced *in vitro* with those collected *in vivo* has to be cautious because of differences in the patterns of parasite exposure to the drug. The precise molecular mechanism of resistance to chloroquine is not clear. Studies have shown that in chloroquine resistance, a mutation on pfcrt K76T has been identified as crucial for developing resistance, while pfmdr appears to play more of a supporting role[1]. Daily and coworkers[2] have stated that mutations in pfcrt K76T are associated with *in vitro* chloroquine resistance in *P. falciparum* isolates. In recent studies, a significant association between K76T mutation and *in vitro* chloroquine response was recorded. Yet this mutation failed to differentiate the majority of chloroquine responders from non-responders under Indian field conditions[3,4]. It is clear that *in vitro* susceptibility of parasites and monitoring of genetic markers of resistance may be useful for specific research purposes, but have only a limited role in the identification of chloroquine resistance. The post-treatment concentrations of chloroquine in whole blood using capillary blood samples dried on filter paper[5] may be an useful indicator to support clinical treatment outcome following chloroquine therapy in both *P. falciparum* and *P. vivax* malaria[6], overcoming many of the practical problems of blood samples and transportations under field conditions. Recently, we have investigated one of 23 cases of *P. falciparum* malaria in which parasites reappeared despite higher concentrations than are prescribed as minimum inhibitory concentrations of chloroquine, sulfadoxine and quinine for clearance of *P. falciparum* parasites[6]. We consider that the assessment of therapeutic efficacy of chloroquine according to WHO protocol supported by the determination of chloroquine concentrations in whole blood after treatment and at the time of reappearance of parasites, are sufficient to define and identify the presence of chloroquine resistance in *P. falciparum* and *P. vivax* malaria cases, while molecular surveillance and *in vitro* susceptibility tests have only a limited role to support treatment outcome and for the identification of chloroquine resistance under field conditions.

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