

## Andragogy in clinical medicine: implications for medical educators



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### Abstract

In Medical education, the final desired outcome is to prepare the students to meet the challenges in delivering health care to individuals and the community in the most competent and professional manner. Application of Andragogy in medical education especially clinical medicine will enrich the learning experience of students with respect to diagnosing their needs, acquiring knowledge, skills and appropriate attitudes. Various strategies such as problem based learning, clinically associated teaching, critical reflection, role modeling and constructive feedback can be used to enhance the students' competence and inculcate professionalism among the students.

### Key words

Andragogy, clinical medicine, medical competence, professionalism, role modeling.



“I never teach my pupils. I only attempt to provide them with conditions in which they can learn.” – Albert Einstein. These words of Sir Albert Einstein best summarize Andragogy (andra: man; agogos: learning) or adult learning [1]. Malcolm Knowles defined andragogy as “the art and science of helping adults learn” [1]. With increasing enrolment in medical education, the medical educators in India are faced with challenges of catering to a larger group apart from providing quality medical education and medical care. Studies assessing students’ preference of medical teaching methods in India and abroad, show an increased preference for participatory teaching methods such as buzz groups, brainstorming, bedside clinics and problem-based learning; hence a need to go beyond the traditional teaching styles with focus on andragogy techniques for quality medical education [2-4]. Dable et al has identified a recognised need for faculty development and motivation to meet students’ expectations [4].

All Andragogy theories stand to enhance adult learning and facilitate effective teaching. In medical education, this translates to achievement of medical competence, whatever the specialty. Any learning activity in medical education, as in other fields, should address the knowledge, skills and attitudes needed to gain competence. In addition, Healthcare profession also involves a process of growing into the professional community [5]. This aspect is of utmost relevance in clinical medicine, where the medical education should prepare the students to meet the individual and population health care needs. Medical educators should view themselves as both learners and educators for a successful adult learning practice in clinical medicine. The implications for medical educators in facilitating effective learning are summarized in Table 1.

To conclude, successful application of andragogy in clinical medicine requires a motivated learning environment where the learners self-evaluate and diagnose their learning needs. The teaching strategies should be appropriate to the learning stages of the student and the subject. Clinically associated learning activities, problem based learning, critical reflection by the learners, role modeling and constructive feedback are important strategies which enable students acquire expected medical competence. Medical educators should identify innovative facilitating strategies and strive to achieve a holistic development of medical students with desired competence and high degree of professionalism.

### Competing interests

The authors declare that they have no competing interests.

**Table 1: Implications for medical educators**

<b>Imparting knowledge</b>	<ul style="list-style-type: none"> <li>• Encouraging “self-diagnosis” of learning needs [1]</li> <li>• Adopting varied teaching styles depending on learning stages (Training in proper history elicitation in initial clinical exposure; examination skills, discussion of differential diagnosis and treatment in subsequent years)</li> <li>• Relevance of subject taught should always act as background [5]</li> <li>• Incorporation of all relevant concepts in Clinically associated teaching [2]</li> <li>• Multidisciplinary expertise for holistic learning of concepts [2]</li> <li>• Subject oriented teaching methods: small group teaching for abstract or difficult concepts, e.g. reading radiograph or electrocardiograph; open discussions and brainstorming sessions for hot topics e.g. ethical issues or medico-legal litigation [2, 5]</li> <li>• Simple de-briefing sessions by students [5]</li> <li>• Encouraging self evaluation and re-diagnosing needs</li> <li>• Incorporation of learning activities at all settings, be it bedside, emergency department, operation theatre or community [6]</li> </ul>
<b>Teaching skills</b>	<ul style="list-style-type: none"> <li>• Opportunities for self-directed learning [2]</li> <li>• On the Job Teaching [5]</li> <li>• Peer-assisted learning</li> <li>• Constructive feedback by facilitator [5]</li> </ul>
<b>Developing attitudes</b>	<ul style="list-style-type: none"> <li>• Exposure to a mix of specialities (surgical specialities promote practical and hands on attitudes; specialities such as general practice, psychiatry and palliative care promote holistic assessment) [5]</li> <li>• Workplace learning (participation in practice) [2, 3, 5]</li> <li>• Family centred experience to identify social aspects of health and disease and develop appropriate technical and emotional engagement in different situations [7]</li> </ul>
<b>Inculcating professionalism</b>	<ul style="list-style-type: none"> <li>• Overall moral development apart from learning biomedical aspects</li> <li>• Role modelling and mentoring [7]</li> <li>• Early clinical contact</li> <li>• Self reflection and reflection with peers [7]</li> </ul>

### Authors’ contribution

GM contributed to the conception of the subject and prepared the original draft. RD and JRD critically reviewed and revised the article. All three authors approved the final draft of the manuscript.



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