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## Critical Thinking in Clinical Practice

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One of the most important attributes of a successful clinician is the ability to think critically in patient care situations. Critical Thinking in clinical Practice is to enhance skills in making well-informed, ethical decisions. Making such decisions is not easy. Decisions are made in uncertain, changing environments with time pressures. Decisions are influenced by a variety of fallacies and biases that we can learn how to avoid. Critical thinking values, knowledge, and skills, therefore, are integral to evidence-based practice. It is also important to recognize common pitfalls in clinical reasoning as well as strategies for avoiding them. These emphasize the importance of recognizing ignorance as well as knowledge and the vital role of criticism in discovering how to make better decisions.

Critical thinking is a dynamic, purposeful, analytic process that results in reasoned decisions and judgments. To think well is to impose discipline and restraint on our thinking, by means of intellectual standards.

This process<sup>1</sup> incorporates the following competencies:

- Interpretation: This is the ability to understand and identify problems.

- Analysis: This is the ability to examine, organize, classify, categorize, differentiate, and prioritize variables.
- Evaluation: This is the ability to assess the credibility, significance, and applicability of sources of information necessary to support conclusions.
- Inference: This is the ability to formulate hypotheses or draw conclusions based on the evidence.
- Explanation: This refers to the ability to explain the assumptions that lead to the conclusions reached.
- Self-regulation: This indicates the ability for self-examination and self-correction.

The critical thinker is characterized by open-mindedness, flexibility, rationality, inquisitiveness, intuitiveness, and reflection. The trend nationwide is to track and evaluate the critical thinking process throughout the curriculum.

The development of critical thinking, the ability to solve problems by assessing evidence using valid inferences, abstractions, and generalizations, is one of the global goals advocated by most medical schools<sup>2</sup>. Many institutions have initiated evaluation of their students for

critical interactive thinking skills. This was practiced in nursing schools of the west since 1960. During admission to the nursing course students undergo pre and post entrance evaluation programme to ascertain and stimulate critical thinking skills. Most of the reputed medical schools also practice this. I feel that this should be included in the curriculum of Indian Medical schools. However our students either fail to acquire this skill or are not fully aware of the benefits it impart towards development of good clinical skill. Teachers should take special interest in creating critical thinking skill among their students. Clinical teaching can be modified in such a way that interpretation and analysis are based, to an extent, on critical thinking.

### **California Critical Thinking Skills Test (CCTST)**

The cognitive skills tested by the CCTST are interpretation, analysis, evaluation, explanation, and inference. The test was developed to assess the critical thinking skills of college students. The test's content validity and experimental validation were based on four experiments conducted at California State University, Fullerton. Further evaluation of this instrument, including factors predictive of critical thinking skills; effect of ethnicity, and critical thinking esteem (one's view of one's critical thinking abilities); and interpretation of group norms and sub scores have also accomplished. Strengths in critical thinking skills have been noted in institutions where faculty participate in discussions about critical thinking and impose curricular changes to enhance students' critical thinking skills.

Five methods<sup>3</sup> are used: 1) observation of students in practice; 2) questions for critical thinking, including Socratic questioning; 3) conferences; 4) problem-solving strategies; and 5) written assignments. These methods provide a means of evaluating students' critical thinking within the context of clinical practice. Students bring with them critical thinking skills on entering university courses and will necessarily have a bearing on how they manage their studies and gain new knowledge.

The intellectual roots of critical thinking are as ancient as the teaching practice and vision of Socrates,

who discovered a method of probing questioning that people could not rationally justify their confident claims to knowledge. Socratic questioning is a simple yet strong method for exploring ideas or statements in depth and breadth. It is applicable in all courses and an essential tool of all teachers of thinking. In simplest form, it involves:

- a) Selection of a question or issue of interest.
- b) Production and examination of a Central Statement from some source or produced by a student in response to the question or issue.
- c) Clarification of the statement and its relationship to the question or issue.
- d) Listing and critical examination of support, reasons, evidence, and assumptions related to the central statement.
- e) Exploration of the origin or source of the statement.
- f) Developing and critically examining the implications and consequences of the statement.
- g) Seeking and fairly examining conflicting views (alternative points of view).

The basic questions of Socrates can now be much more powerfully and focally framed and used. In every domain of human thought, and within every use of reasoning within any domain, it is now possible to question:

- Ends and objectives,
- The status and wording of questions,
- The sources of information and fact,
- The method and quality of information collection,
- The mode of judgment and reasoning used,
- The concepts that make that reasoning possible,
- The assumptions that underlie concepts in use,
- The implications that follow from their use.
- The point of view or frame of reference within which reasoning takes place.

Conclusion: Critical thinking is not just thinking, but thinking which entails self-improvement. This improvement comes from skill in using standards by which one appropriately assesses thinking. Or in simple terms it is self-improvement (in thinking) through standards (that

assess thinking). Day to day practice needs a lot of thinking, as decisions are taken at bedside in a limited time frame. There ought to be mistakes which can invite disaster. So every physician should have one or more alternate diagnoses apart from the best possible diagnosis. Establishing the best possible decision from a group of

probable alternatives needs critical thinking. Here the physician needs to frame few questions such as “why this diagnosis” and “why can’t it be some thing else” etc. Questions thus framed may be based on Socratic questioning. Then these questions are answered logically to gain the advantage of reaching the correct decision.

## References

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