

Learning by doing: a novel approach to improving general practitioners' diagnostic skills for common mental disorders

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Der „learning by doing“-Ansatz zur Verbesserung der diagnostischen Kenntnisse von Allgemeinärzten für häufige psychiatrische Störungen

Zusammenfassung. *Einleitung:* Zur Verbesserung der Diagnoserate für psychische Störungen bei Patient/inn/en in der Allgemeinpraxis wurden zwei Wege vorgeschlagen: (1) Die Verwendung von Screening-Instrumenten und (2) eine eingehende psychiatrische Schulung von Allgemeinärzt/inn/en. Das von uns entwickelte Programm geht einen Mittelweg und verbindet eine zeit-ökonomische didaktische Intervention mit dem praktischen Einsatz eines didaktisch-diagnostischen Instruments. Die vorliegende Pilotstudie untersucht die Akzeptanz des Programms und evaluiert den Wissenszuwachs im Hinblick auf 12 psychiatrische (depressive, angst- und alkoholbezogene) ICD-10 Diagnosen.

Methodik: Die didaktische Intervention bestand aus zwei im Abstand von vier Wochen abgehaltenen, 3-stündigen interaktiven Fortbildungsveranstaltungen. Die teilnehmenden Allgemeinärzt/inn/en waren angehalten, das didaktisch-diagnostische Instrument, ein kurzes Interview namens TRIPS (Training für Interaktives Psychiatrisches Screening – eine gekürzte und adaptierte Fassung von PRIME-MD) zwischen den Sitzungen in ihrer klinischen Praxis einzusetzen. Fünf Wochen nach der zweiten Unterrichtseinheit wurde in einer dritten Sitzung festgestellt, ob der Lernerfolg erhalten geblieben war. Für die Erfassung des Wissenszuwachses wurde ein 15-Item-Fragebogen verwendet. Die Akzeptanz von TRIPS wurde mit einem eigenen Fragebogen erfasst.

Ergebnisse: 26 der 31 Teilnehmer waren bei allen drei Sitzungen anwesend und wurden in die Auswertung einbezogen. Der Mittelwert richtig beantworteter Fragen wuchs von 5,5 bei der Ersterhebung auf 9,8 bei der zweiten Sitzung ($p < 0,05$), und auf 11,3 bei der Follow-up-Sitzung. Die Akzeptanz von TRIPS und die Einschätzung als praxisgerecht waren sehr hoch.

Schlussfolgerungen: Das Format der Fortbildungsveranstaltung und der „learning by doing“-Ansatz waren

bezüglich der didaktischen Endpunkte erfolgreich. Die Teilnehmer/innen bewerteten TRIPS als geeignet für den Einsatz in der Allgemeinmedizin.

Summary. *Introduction:* Two strategies have been proposed to increase the rather low recognition rate of common mental disorders in primary care: (1) the use of screening instruments and (2) extensive psychiatric training for general practitioners. We have chosen a “middle-of-the-road” approach to teach general practitioners by means of a time-saving psychiatric training programme how to make their own psychiatric diagnoses. This pilot study aimed at assessing the acceptance of this programme, its impact on general practitioners' knowledge of 12 ICD-10 disorders – depressive, anxiety and alcohol-related disorders – and the short-term persistence of the knowledge acquired.

Methods: The training programme consisted of two 3-hour sessions four weeks apart. An educational instrument, a short interview named TRIPS (Training for Interactive Psychiatric Screening), a shortened and adapted form of PRIME-MD, was used to train single-handed general practitioners in Vienna, Austria. TRIPS had to be used by the participants in daily practice in between sessions. Five weeks after the second training session a follow-up evaluation was held to assess the persistence of the knowledge acquired. The perceived usefulness of TRIPS was assessed by a short questionnaire. Knowledge was assessed by a separate 15-item questionnaire.

Results: Of the 31 participating general practitioners 26 attended all three sessions. There was a significant increase in the mean number of correctly answered questions between baseline (5.5 of 15) and session two (9.8; $p < 0.0001$), and a further increase between the second and the follow-up session (11.3; $p < 0.05$). Also, general practitioners rated TRIPS as a practical and useful tool for family practice and stated that its use met with patients' approval.

Conclusion: The format chosen was successful in its intended educational endpoints. According to participants TRIPS is appropriate for the family practice situation and is accepted by patients.

Key words: Medical education, primary health care, depression, anxiety disorders, TRIPS [non-MeSH].

Introduction

While numerous studies have shown that the incidence and prevalence of psychiatric disorders among primary care patients is substantial [1, 2], the recognition and treatment rate of the most common of these disorders, i. e. depression, anxiety, dementia and alcohol abuse, is not always satisfactory [3–6].

To improve this situation the use of screening instruments has been proposed [7–12]. However, evidence is accumulating that, even when screening instruments for psychiatric disorders are of adequate sensitivity and specificity, their use does not necessarily translate into interventions [13–15]. A reason for the low impact of screening tools on patient care could be that their use does not necessarily ensure a proper understanding of the disorder. One critic even calls screening instruments “cold tests” [16]. An alternative to using screening instruments is to train doctors to make their own diagnoses in patients in whom the clinical presentation suggests that a psychiatric disorder might be present. In fact, Dowrick has found for depression that GPs who themselves diagnose depression are more likely to initiate treatment [15]. However, attempts to train GPs to make their own psychiatric diagnoses are limited by the fact that they are mostly pressed for time and full psychiatric training and extensive psychiatric interviewing is too time-consuming.

In view of this dilemma we developed a “middle-of-the-road approach”, a short and time-saving training programme, including on-job training, i.e. a “learning by doing” approach, to familiarise GPs with the definitions of 12 common psychiatric ICD-10 diagnoses and teach them how to make these diagnoses.

This pilot study aimed at assessing the acceptance of this educational diagnostic tool as well as the immediate effect on GPs’ diagnostic knowledge and the persistence of the acquired knowledge five weeks after the end of the programme.

Patients, materials, and methods

Study population

The study was conducted in Vienna, a city of 1.8 million inhabitants. Participants were recruited via postal invitation

through a mailing sent out by the Viennese Society of General Practice to all 838 Viennese GPs under contract with the Austrian national health insurance scheme (“Kassenvertragsärzte”). In Austria GPs are self-employed and work in their own single-handed offices. **In order to be licensed as a GP doctors must complete at least two and a half-years at a recognized hospital training post and six months of vocational training in primary care (with a self-employed GP) [17].**

Design and procedures

This was an interventional pre-and-post training evaluation study of the acceptance and educational effects of a training package using TRIPS, a short educational diagnostic interview specially designed to detect twelve ICD-10 psychiatric disorders – five depressive, five anxiety and two alcohol-related disorders (see below and Table 1). The study was of an exploratory nature since it was not possible to employ a control group.

The training package consisted of two 3-hour sessions four weeks apart. In the first session participants were instructed by a psychiatrist (HK) on how the twelve mental disorders are defined in ICD-10 and how to identify them by interview. Model video interviews were used to demonstrate the best way of interviewing patients to find out whether one or more of these disorders are present. Between the first and the second session each participant had to apply TRIPS in his/her daily work with five patients, in order to “internalise” the diagnostic definitions and the optimal interview strategy. At the second session the summary sheets of the interviews carried out had to be handed in and a more problem-based approach was used, centring on participants’ practical experience with TRIPS and allowing for feedback and clarification. The training sessions also addressed principles of pharmacological and psychotherapeutic interventions (e.g. use of self-help manuals for anxiety disorders [18]) which are not dealt with here. Knowledge evaluations were carried out at baseline (before the first training session) and at week 4 (at the beginning of the second session). At the end of the second session participants were encouraged to go on using TRIPS in their daily clinical work. Five weeks after the end of the programme a follow-up session was held at which a further knowledge evaluation was carried out to assess the persistence of the training effects. Also, at this session satisfaction with the training programme and the perceived usefulness of TRIPS were assessed by means of a separate questionnaire. This third session is not part of the training package itself but was held for evaluative purposes only.

Educational diagnostic instrument

The educational diagnostic instrument named TRIPS (Training for Interactive Psychiatric Screening) comprises a brief self-rated check list of physical and psychological complaints, a short interview guideline and a summary sheet. It is modelled on the DSM-IV focused PRIME-MD [19, 20], as

Table 1. TRIPS covers five depressive, five anxiety and two alcohol-related disorders according to ICD-10

Depressive disorders	Anxiety disorders	Alcohol problems
F32 depressive episode	F41.0 panic disorder	F10.1 harmful use of alcohol
F33 recurrent depressive disorder	F41.1 generalized anxiety disorder	F10.2 alcohol dependence syndrome
F31 bipolar affective disorder	F40.0 agoraphobia	
F34.1 dysthymia	F40.1 social phobia	
F43.20 brief depressive reaction	F40.2 specific phobia	

shortened and adapted by Katschnig and Gföllner [21] for ICD-10 after two years of testing in five seminars, in which more than 100 GPs had participated. TRIPS is used as a training tool for teaching GPs (a) the definitions of 12 ICD-10 psychiatric diagnoses (Table 1) and (b) the best way to find out whether one or more of these diagnoses are present, by asking the right questions in an optimum order. TRIPS is not meant to be used as a “paper-and-pencil instrument” for each patient interviewed. On the contrary, the GP is expected to internalise the definitions and the interview technique. After a while the interview can then be carried out freely, the actual paper version of TRIPS being used only as a reference document. The interview usually takes between 3 to 10 minutes (depending on the number of disorders present in a given patient).

TRIPS was adapted from DSM-IV (as used by PRIME-MD) to ICD-10 to comply with increasing international demands for the use of ICD-10. It covers not five diagnostic groups (as PRIME-MD does) but only three (depressive, anxiety and alcohol-related disorders). Short ICD-10 definitions are printed in boxes on the interview sheets, so that the GP has the diagnostic concept fully visible when learning to carry out the TRIPS interview. The interview guideline comprises five pages in large print (two each for depressive and anxiety disorders, and one for alcohol-related disorders). A neat layout with different colors for the three diagnostic groups ensures maximum clarity and ease of use. As in PRIME-MD, a one-page self-rating checklist for physical and somatic complaints, which can also be used as assisted self-rating, is included. For the on-job training (“learning by doing”) participants had to use TRIPS only in patients for whom the checklist was positive in one or more of the three diagnostic groups. Outside the training programme, TRIPS can be used without the self-rating checklist, with patients in whom the GP suspects a depressive, anxiety or alcohol-related disorder to be present. It is assumed that, before applying TRIPS, the GP is able to identify and exclude patients with psychoorganic or psychotic disorders for whom TRIPS is not applicable.

Questionnaire for GPs’ evaluation of the educational programme

In order to assess how GPs perceived the usefulness of the educational programme four questions were presented to participants at the end of the follow-up session. Participants were asked whether they thought the training programme had improved their diagnostic knowledge and whether TRIPS was appropriate for general practice, helpful for daily work and accepted by patients (0 = disagree, 10 = fully agree).

Knowledge questionnaire

The questionnaire for evaluating participants’ diagnostic knowledge contained 15 questions, seven for depressive, six for anxiety and two for alcohol-related disorders. The questions were selected on the basis of what is contained in the TRIPS interview guideline and of what is taught in the educational sessions and demonstrated in the model video interviews. The format of the questions varied between free answer questions, multiple-choice questions and multiple true-false questions. For the purpose of data analysis the answers were dichotomised into “correct” vs. “wrong”. The questionnaire was tested in a field trial before the definite version was set up.

Data analysis

Statistical analyses, including descriptive statistics and testing pre- and post-intervention differences (Mann-Whitney-

U-test), were carried out using the programme package SPSS Version 11.5. A two-sided p-value <0.05 was regarded as statistically significant.

Results

Participants

Of the 838 Viennese GPs under contract with the national health insurance scheme who were invited by mail to participate, 38 enrolled for the programme in three planned Saturday morning sessions spread over nine weeks. 31 GPs attended the baseline session, 29 (93.6%) the second session, and 26 (83.9%) took part in all three sessions. Only these 26 were included in the analysis, because they had the whole package of the educational intervention (at the first and the second session, the practical use of TRIPS between these sessions and the discussion of their experiences at the second session) and a follow-up assessment at the third session. Of these 26 participants 11 were female and 15 male; the mean age was 43.2 (± 7.6) years, the mean duration of practice as a GP 10.5 (± 7.9) years.

Acceptance of the educational programme by GPs

Figure 1 shows the answers to the four questions presented to the participating GPs at follow-up. A large majority evaluated the programme positively. On a 0 (disagree) to 10 (fully agree) scale the score for the statement “TRIPS has improved my diagnostic knowledge” was 8.32 (± 1.25), for “TRIPS is appropriate for general practice” 8.24 (± 1.45), for “TRIPS is helpful for daily work” 7.90 (± 1.59), and for “Patients accept TRIPS” 8.38 (± 1.01).

Effects of the educational intervention on diagnostic knowledge

The mean number of correctly answered questions increased significantly between baseline (5.5 out of 15 possible correct answers) and the second session (9.8; $p < 0.0001$) (Fig. 2). This pattern is basically the same for each diagnostic group.

Between the second session and the follow-up five weeks later a further increase of knowledge was observed (11.3; $p < 0.05$). When diagnostic groups are analyzed separately, this increase is found to be due exclusively to the improvement of knowledge relating to depressive disorders ($p < 0.01$), while for anxiety and alcohol-related disorders the knowledge levels attained at the second session persisted but did not significantly increase (see Fig. 2).

Discussion

This study shows that this educational package which combines a three-hour teaching session with the subsequent use in daily practice of a short structured psychiatric interview as a “learning by doing” tool, followed by a second three-hour educational session (for feedback and clarification), is an effective method for increasing GPs’ diagnostic knowledge of common mental disorders. This “learning by doing” approach with the use of TRIPS was judged by participating GPs as appropriate and helpful, as

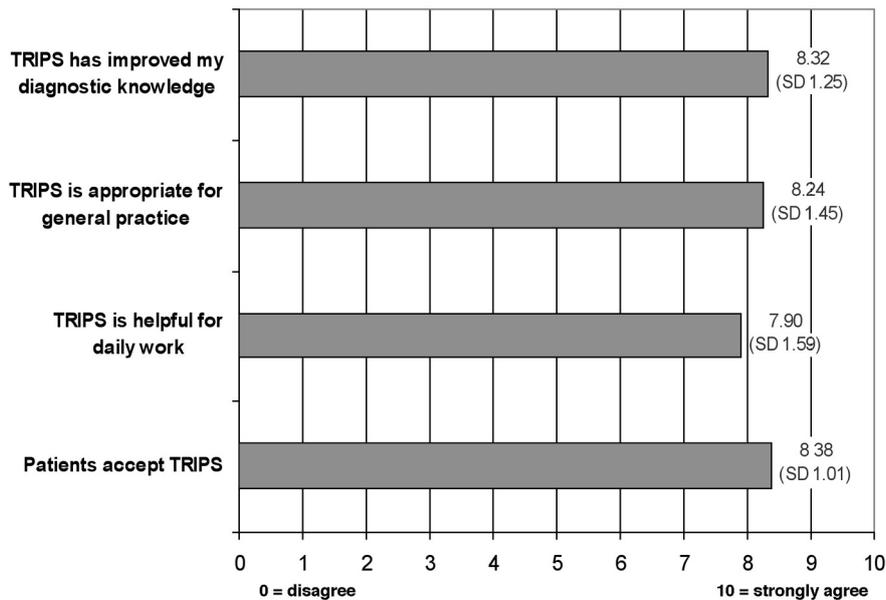


Fig. 1. Physicians' answers to questions on the usefulness of TRIPS (mean of evaluation scores)

a valuable tool for increasing their diagnostic knowledge and as acceptable by patients.

Although identification of patients with mental disorders in primary care is only one step in the complex process of providing adequate help (which includes also appropriate patient counselling, treatment and management), it is the essential first step, which is often not taken at all. The reasons for the underdiagnosis of mental disorders in primary care are manifold. However, insufficient training has been claimed to be the most important one [22]. Consequently, quite a few mental health training programmes have been designed for GPs, the results of which are still inconclusive [23–25]. One reason for the discrepant outcomes may lie in the differences of the educational methods used in different training programmes. Kroenke and colleagues in their review of studies carried out between 1966 and 1998 complain that the heterogeneity of the study designs precluded the conducting of any meaningful meta-analysis [23].

There is, in fact, relatively little consensus regarding methods of CME used in order to increase GPs' knowledge of mental disorders [22]. A wide range of approaches has been used. Attempts to influence clinical behaviour through guidelines have been shown unlikely to change detection rates and outcomes for patients with mental health problems in primary care settings [26, 27], a finding which is in line with the limitations of the usefulness of guidelines for psychiatry [28] and for medicine in general [29]. The use of simple screening tests is economical but ineffective [15, 30], and extensive psychiatric training, which would advance the understanding of mental disorders, is impracticable.

The economical "learning by doing" approach used in the present study can be regarded as a compromise between the screening and the extensive training approach. This approach also allows for the learning needs of adults, who, as Dennick summarises, "like to learn in relevant, outcome-orientated environments and ... by reflecting on

their experiences in the light of the outcomes they are trying to achieve ... not only learn more effectively but actively take responsibility for their own learning" [31]. It is in line with adult learning theory that educational interventions should enable learners to identify learning resources, integrate learning with the demands of their daily professional life and involve learners in evaluating their own learning [32]. Whereas a short screening instrument does not promote an understanding of the disorder screened for, a structured interview, such as TRIPS probably does and possibly stimulates a continued learning effect. Also, by implementing the practical clinical use of an educational diagnostic tool in the "real world" setting of participants' own clinical practices, a problem-oriented approach is taken. Madariaga et al. have recently used the term "learning by doing" for a problem-based approach to developing research skills and concluded that the problem-based approach seems to be more effective than traditional methods [33].

However, it would be naïve to assume that the appropriateness of the educational method alone is a guarantee for the success of a mental health training programme for GPs. Gask et al., drawing on data from a qualitative study of GPs who had participated in an educational programme on depression, have identified two other factors [25]: the lack of the GP's belief that he/she could have an impact on the outcome of depression, and the organizational context in which doctors had to implement what they had learned.

Concerning GPs' beliefs, Chew-Graham et al. found that they often conceptualize what psychiatrists call depression as a common and normal response to life events, and that GPs tend to view certain life problems as insoluble by medicine [34]. In fact, some may regard the concept of a discrete categorical diagnosis as irreconcilable with the holistic approach necessary in primary care and others may doubt the effectiveness of antidepressants in the face of social problems [35]. Some GPs may also

be afraid of over-diagnosing mental disorders because of the possible stigmatizing effects of the diagnosis.

Also contextual factors of the GPs' daily work situation are relevant for whether a training programme translates into the real world. An editorial in the BMJ has justifiably raised the question as to how many conditions a GP can screen for [36]. The clear discrepancy between the variety of medical fields in which primary care physicians should deliver services and the reality of their professional obligations [37] necessitates a GP-centred approach to CME, which should also pay attention to GPs' time constraints.

A recommendation of the US Preventive Services Task Force suggests that adults should be screened for depression only in clinical settings that have systems in place to assure accurate diagnosis, effective treatment, and follow-up" [38]. **In other words: It is important to have the resources to translate the ability to identify patients with depression into positive health outcomes.** Davis et al. have stated that **training GPs to make correct diagnoses of mental disorders is a way to improve clinical outcomes, although not necessarily always successful** [39]. Ritter et

al. found that GPs' knowledge of different aspects of suicide is rather accurate – most of the high-risk groups were correctly assessed by them. However, the GPs surveyed claimed that they were not sufficiently prepared for the management of suicidal patients [40]. Dervic et al. have suggested accordingly that additional training in management of suicidal behaviour should be provided to doctors [41]. An additional factor influencing outcome, which is especially relevant for the treatment of mental disorders, is the motivation of the patient to undergo treatment [42]. Due to fear of stigma this motivation might be low in some patients.

Finally, characteristics of the health care system in which the GP works are also relevant for whether the ability to diagnose a mental disorder in primary care leads to better patient outcomes. It makes a difference whether specific patterns of care, such as collaborative [43–45] and chronic care [46, 47], are possible. Whether and which patients with mental disorders can and should be managed within the primary care setting or referred to specialized care, or whether some type of intermediate care is more appropriate [43], is not only a question of the diagnosis,

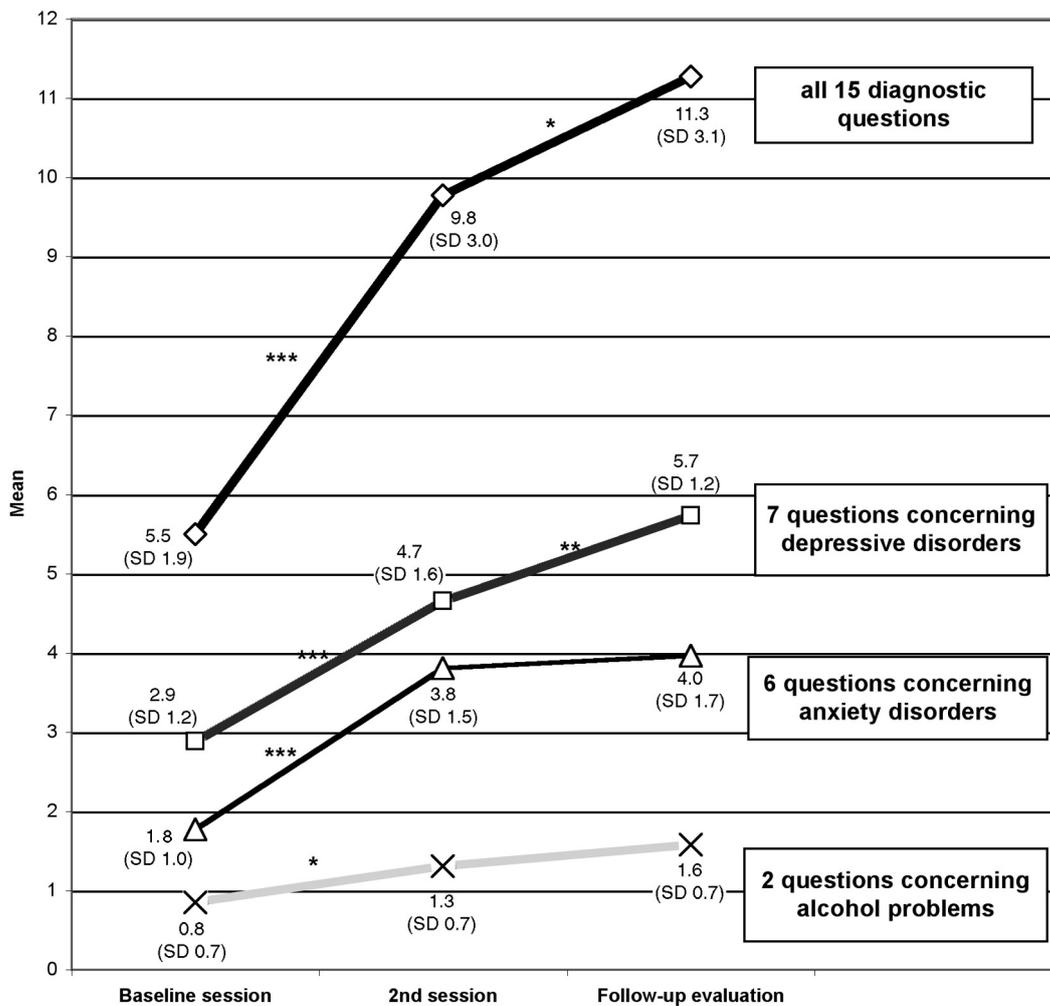


Fig. 2. Mean number of correctly answered questions to diagnose depressive, anxiety and alcohol-related disorders from baseline to second session and from second session to follow-up evaluation. Significant differences according to Mann-Whitney-U-test: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

the severity of the disorder and treatment resistance, but also of the allocation of resources and the definitions and accessibility of primary and specialized care services in a given health care system.

Limitations of this study

Because of the relatively low number of participants, it was not possible to employ a control group. The study is, therefore, only of an exploratory nature and should be repeated in a RCT design. In addition, the **design of the study** did not allow the assessment of the acquired skills, but only of the improvement in diagnostic knowledge, which also has the disadvantage that we cannot be sure that the participants did not study for the assessment. Also, future research should focus on the question of whether the acquired diagnostic knowledge persists over a longer period. Concerning the sample of GPs who took part in this study, the majority of the participants were almost certainly doctors highly motivated for CME which raises the question of the generalisability of the results. Gerrity and colleagues have shown that GPs who are themselves eager to increase their skills and performance, and those who possess what has been called self-efficacy (beliefs concerning one's ability to display a certain behaviour) benefit in any case most from educational interventions [av]. Finally, the study did not address the questions whether an increase in diagnostic knowledge translates into more effective patient care.

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