Patient Education and Counseling 94 (2014) 33–42

Contents lists available at ScienceDirect

Patient Education and Counseling

journal homepage: www.elsevier.com/locate/pateducou

Medical Education

Addressing mental health issues in primary care: An initial curriculum for medical residents

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ARTICLE INFO

Article history:
Received 27 February 2013
Received in revised form 26 August 2013
Accepted 8 September 2013

Keywords:
Biopsychosocial training
Mental health training
Residents
Curriculum

ABSTRACT

Objective: Many express concern that modern medicine fails to provide adequate psychosocial and mental health care. Our educational system has not trained the primary care providers who care for most of these patients. Our objective here is to propose a quantum change: prepare residents and students during all years of training so that they are as effective in treating psychosocial and mental health issues as they are medical problems.
Method: We operationalize this objective, following Kern, by developing an intensive 3-year curriculum in psychosocial and mental health care for medical residents based on models with a strong evidence-base.
Results: We report an intensive curriculum that can guide others with similar training interests and also initiate the conversation about how best to prepare residency graduates to provide effective mental health and psychosocial care.
Conclusion: Identifying specific curricula informs education policy-makers of the specific requirements they will need to meet if psychosocial and mental health training are to improve.
Practice Implications: Training residents in mental health will lead to improved care for this very prevalent primary care population.

1. Introduction

A recent essay echoed many in calling for a quantum change in mental health and other psychosocial training for our students and residents [1]. The root cause of deficiencies in modern care stem from untrained primary care providers (PCP) as *primary* mental health providers for the majority of patients [1–3]. Through no fault of their own, PCPs and other medical physicians receive insufficient training during medical school and residency [1] – in the face of a prevalence of "any DSM mental health disorder" of 25% in outpatient clinics, more common than hypertension and diabetes combined [4–6]. Subthreshold psychosocial problems are even more ubiquitous. Only educators' concerted attention to this major societal need can reverse deficiencies in mental health care and, more generally, all personal care [7,8]. This has led many to propose that educators must realign training to better meet the needs of society [1,7–9]. While team efforts, like collaborative care and the patient-centered medical home, have been effective and need to continue, they address only a small portion of the population and their long-range impact remains uncertain [10].

We propose to complement these efforts with a major change in medical education: prepare residents and students intensively during all years of training. To guide this change, we propose one overarching curricular goal: that our graduates are as effective in

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http://dx.doi.org/10.1016/j.pec.2013.09.010

diagnosing and treating mental health and other psychosocial problems as they are with medical problems.

We operationalize this recommendation by proposing for others' consideration a specific 3-year curriculum for internal medicine residents that we now are implementing at Michigan State University (MSU). The focus of a HRSA grant, our work in developing and deploying this curriculum might be useful to others wishing to train residents to be more skilled. Additionally, we seek to initiate the dialog needed to bridge the gap between what we now teach and the needs of our patients and society [8]. Policy-makers need specific curricular information to redress the problem. They, in turn, can address its multidimensional aspects; e.g., curricular time, faculty development, cost, infrastructure for team care, reimbursement for psychosocial care. In this paper, we focus on the specific curricular needs for making residency graduates competent.

We followed the recommendations of Kern et al. in developing the curriculum [11].

2. Theoretical perspective

There has been ongoing concern that well-intentioned calls for change in medical education often falter [12–14]. Many believe the most important reason is that major curricular changes often lack a strong theoretical underpinning and evidence of effectiveness [12,15–19]. Because the problem we address is the lack of attention to patients' psychosocial and mental health problems, the scientific and pedagogical theories we need must themselves be relevant for this broad spectrum.

2.1. Scientific theory

From a scientific standpoint, the general system theory-based biopsychosocial (BPS) model [20] integrates the psychosocial components with the disease elements of the highly effective biomedical model – and there is evidence that we can operationalize the BPS model as a truly scientific model [21–23]. The evidence is repeatable and defines how a provider obtains the model's relevant biological, psychological, and social domains for every patient in each interaction. An extension of the patient-centered concept, relationship-centered care [24] guides the entire team of caretakers in further operationalizing the social level of the BPS model. We thus have a scientific BPS model with the methods to make it workable and practical on individual and team levels.

2.2. Pedagogical theory

The approach to education enshrined in many institutions exemplifies the other key theoretical issue. Current education remains anchored in a focus on disease and not the experience of the person who has the disease and its impact at the individual, family, community, and societal levels [16,18,25]. Most education in the preclinical years is devoid of real patient contact, much less having learners contact patients in real-life circumstances such as the clinic or the home. Just as the BPS model and its patient-centered methods provided scientific guidance for the quantum change recommended, we propose a parallel and complementary pedagogical re-orientation to teach effectively about the psychological and social needs of patients.

Two mutually reinforcing theoretical perspectives provide this guidance: social learning (cognitive) theory and sociocultural theory [15,16,18,26]. The former broadens individuals' education to include reflection and self-awareness as dimensions of care. The latter recognizes the important influences of culture and community on care processes on both sides of the stethoscope; e.g., considering the patient in his or her family and community context as well as the situated practices of individual clinicians and teams (communities of practice, situated learning) [15,25,27].

In addition to the attitudinal impact of self-efficacy, which is central to social learning theory [15,25], we actively incorporate personal awareness training of learners. This is consistent with the above theoretical perspectives [12,27] and addresses the learner's emotions and ability to self-reflect. These are the key determinants of whether learners will actually use patient-centered skills to address psychosocial and mental health problems [25,28,29]. Additionally, only this personal work can produce the motivation, state of mind, and professional identity needed for becoming a more broadly based physician [12,27]. Personal awareness training enhances patient-centered skills [29] and is another specific method for integrating emotional work into workplace learning on an individual basis, a missing dimension in most education [12]. Our recommended patient-centered approaches specifically train learners to recognize and attend to patients' and their own emotions. This produces "meaning," the fundamental medium for communication at psychological and social levels [30], for both learner and patient and potentially for the entire community of practice. Meaning, in turn, can permeate institutions, a key to their own identity and to their culture (and hidden culture) [16–18].

3. General needs

Goldberg, Engel and Romano, and Burns were among the first to call for improved training, starting in the 1970s and 1980s [31–33]. More recently, the Institute of Medicine (IOM) and Healthy People 2020 urged improved psychosocial and mental health care [34,35], the IOM further specifying improved psychosocial and mental health training across all years of medical school and residency [36]. The American Association of Medical Colleges has been similarly emphatic [37]. Responding to the need for physicians with increased psychosocial competence, the AAMC will add a large behavioral and social sciences section to the Medical College Admissions Test beginning in 2015 [38].

Nevertheless, the extent of training in most medical schools in psychosocial and mental health medicine has changed little: typically 6–8 weeks of interviewing training in the first year and 4–8 weeks on psychiatry in the third year, often on inpatient units with patients very unlike those they will see in practice [1]. In residencies, 71–92% of program directors in internal medicine, pediatrics, and obstetrics indicate that their psychosocial and mental health training is minimal or suboptimal, significantly greater than the 41% indicated by family medicine directors [39]. As an example in internal medicine, the median number of hours per year devoted to psychosocial training is 17 [40].

4. Specific needs

4.1. Resident needs

The residency training program at MSU has long had a one-month psychosocial rotation focused on medical interviewing but with very little additional training in mental health. Using knowledge and self-efficacy questionnaires, skills ratings of simulated patient encounters, and patient ratings of encounters, we corroborated the literature findings of serious deficiencies in residents' mental health care skills, personal awareness, and team-based care [22,29,41]. These areas now are included in the curriculum being implemented, and we are conducting careful formative evaluation of its utility and acceptability to the residents.

4.2. Support needs

The MSU learning environment fosters training in medicine's broader dimensions. We have active support of the department chair, residency program director, and teaching faculty. Key leadership supports the requisite faculty time and the increase in the time needed for training residents in each year.

4.3. Patient needs

The curriculum focuses on adult patients' needs in primary care general internal medicine, which includes:

- *non-distressed patients with psychosocial issues*; e.g., normal worries (fear of cancer) and interests (colonoscopy); physical symptoms and hopes for treatment; medication adherence; prevention measures
- *mild-moderate psychosocially distressed patients*; e.g., minor depression; subsyndromal anxiety; grief; "stress;" job problems; end of life issues; dysfunctional family interactions; substance misuse; medically unexplained symptoms
- *moderate-severe psychosocially distressed patients*; e.g., DSM-IV diagnoses, such as major depression, anxiety, panic disorder, and substance abuse; suicidal; psychotic; severely dysfunctional; medically unexplained symptom/chronic pain syndrome; substance abuse.

4.4. Educational needs

Few internal medicine faculty have significant experience in mental health care, and we incorporated as part of our *teaching* team several mental health professionals: *two* from psychiatry, *one from* psychology, and *one from* social work.

Recognizing that primary care mental health and psychosocial medicine were unique and that we could not simply transpose a psychiatry model of care, we were guided by numerous reviews [42–44] and educational principles [11], consultations with many primary care and mental health professional colleagues over the years, and our own experiences and research. We note especially a rich literature in family medicine and leadership of the Society of Teachers of Family Medicine (STFM) [45] and the World Organization of Family Doctors (WONCA) [46] in biopsychosocial medicine and primary care mental health.

We concluded from these resources that, in addition to developing a strong research base for a curriculum, we also needed to address two areas that had long been impediments to teaching and care. First, a key reason for failing to recognize and treat mental health problems in primary care, in addition to lack of training, is that ~90% of these patients present with medically unexplained symptoms, the sole manifestation of their mental health problem in two-thirds of patients [47,48]. This physical presentation leads PCPs to preferentially, but fruitlessly, seek organic diseases, distracting them from the underlying mental health problem [49,50]. Our research in this area led to the mental health model we now are implementing and proposing here [51–54].

Second, this is the first training, to our knowledge, in primary care or specialty care that systematically teaches the doctor–patient relationship (DPR). In addition to using a repeatable patient-centered method to establish the DPR, training focuses systematically on the physician's negative reactions to patients (countertransference), extremely common in patients with psychiatric illness. Our approach stems from much work in this usually ignored area where we have developed a consistent method for teaching doctors to become aware of and change their negative responses [28,29,55–58]. It is also during this work that the teacher–learner relationship maximizes, an essential feature of effective training [59–61].

4.5. Curricular needs

Based on the objectives in Appendix 1, we identified the most pressing curricular need as having a sufficient number of hours for the comprehensive training we envisioned: 300 contact hours distributed across all years of residency [1]. This increase in training time reflects not just a need for increased knowledge. Most training must be experiential and competency-based and supplemented with sufficient attitudinal (personal awareness) work to ensure use of learned skills, satisfaction of the doctor, and the humanity of both doctor and patient.

5. Objectives and methods

Importantly, we do not seek to transform medical residents into psychiatrists but, rather, to train them to be as competent in dealing with common psychosocial and mental health problems as they are with medical problems. For refractory patients, we train residents to make appropriate referrals to mental health professionals. The curriculum also addresses the same areas proven successful in the German experience of training practicing PCPs for 80 h over one year: cognitive-behavioral treatment, personal awareness, medically unexplained symptoms, and the mental health conditions we address [5,6].

Specific behaviorally-defined models are necessary for teaching complex topics [62]. They make up our Learning Objectives (see Appendix 1) and are discussed next. Subset models are needed in some areas, and we have included tables of these as Supplemental Digital Content (SDC) where noted below; we expect to develop more; e.g., management of inpatients requesting high doses of narcotics, guidance for palliative care.

5.1. Model 1 – diagnosis and doctor–patient relationship

This basic patient-centered interviewing method involves data-gathering for diagnosis (of both biomedical and psychosocial issues) and emotion-handling for establishing the DPR [63–65]. Summarized in Table 1 [65], the model highlights the role of emotions that simultaneously lead to trust and safety on the patient's part and allow the doctor to formulate accurate diagnoses, consistent with the Finset/Mjaaland theory that affect regulation is the key dimension in patient-centered interviewing [66]. The DPR is of particular significance in treating chronic pain patients [67], the mode of presentation of many mental health problems [47]. This model has an evidence base stemming from a randomized controlled trial that demonstrated learners easily learned this model as well as Models 2 and 3 [9,22].

5.2. Model 2 – basic treatment principles

Integrating the skills from Model 1, Model 2 focuses on health behavioral change: informing and, when necessary, motivating patients for treatment via negotiation and sharing in decision-making [9,68]. Summarized in Table 2 [65], this empirically-based method [9,22,54] describes the process for implementing all types of treatment, from mental health and non-mental health psychosocial problems to those addressing organic diseases. Subset models describe providing patients with routine information (Supplemental Digital Content Table 1) and providing bad news (Supplemental Digital Content Table 2).

Table 1
Integrated patient-centered and clinician-centered interview.

Start of the interview: patient-centered interviewing method (5-steps, 21-substeps)
Step 1 – Setting the stage for the interview
1. Welcome the patient
2. Use the patient's name
3. Introduce yourself and identify specific role
4. Ensure patient readiness and privacy
5. Remove barriers to communication (sit down)
6. Ensure comfort and put the patient at ease
Step 2 – Chief concern/agenda setting
1. Indicate time available
2. Forecast what you would like to have happen in the interview; e.g., check blood pressure
3. Obtain list of all issues patient wants to discuss; e.g., specific symptoms, requests, expectations, understanding
Summarize and finalize the agenda; negotiate specifics if too many agenda items
Step 3 – Opening the history of present illness (HPI)
1. Start with open-ended beginning question focused on Chief Concern
2. Use 'nonfocusing' open-ended skills (Attentive Listening): silence, neutral utterances, nonverbal encouragement
Obtain additional data from nonverbal sources: nonverbal cues, physical characteristics, autonomic changes, accouterments, and environment
Step 4 – Continuing the patient-centered history of present illness (HPI)
1. Elicit physical symptom story – obtain description of the physical symptoms using focusing open-ended skills
2. Elicit personal and social story – develop the more general personal/social context of the physical symptoms using focusing open-ended skills
3. Elicit emotional story – develop an emotional focus using emotion-seeking skills
4. Respond to feelings/emotions – address the emotion(s) using emotion-handling skills
5. Expand story – continue eliciting further personal and emotional context, address feelings/emotions using focusing open-ended skills, emotion-seeking skills, emotion-handling skills
Step 5 – Transition to the doctor-centered history of present illness (HPI)
1. Brief summary
2. Check accuracy
3. Indicate that both content and style of inquiry will change if the patient is ready

Middle of the interview: clinician-centered interviewing method (5 Steps)
Step 6 – Completing the history of present illness (HPI) using closed-ended, directive interviewing
Step 7 – Past medical history
Step 8 – Social history
Step 9 – Family history
Step 10 – Review of systems

Table 2
Evidence-based model for end of the interview: informing/motivating patients to adopt better health habits.

Establish information base and motivate
(1) Determine knowledge base, the patient's specific situation, and readiness for change
(2) Give clear information about adverse health potential of habit in question, such as smoking
(3) Make brief, explicit, and behaviorally-defined recommendation for change
(4) Motivate patient
1. Inform of health and other benefits from the change
2. Use knowledge of their personality
3. Emphasize patient's capacity for change
4. Underscore that help is available in you or others to whom you could refer
5. Make point that past failures do not bode poorly
(5) Check understanding and desire for change; if they desire change, proceed as follows

Obtain a commitment and patient's goals
(1) Repeatedly reinforce commitment
(2) Set specific behavioral goals
(3) Set expectations for success
(4) Reaffirm commitment in terms of patient's goals

Negotiate a specific plan
(1) Obtain detailed understanding of the role of the behavior to be changed in the patient's life
(2) Include patient actively in setting the plan, including sharing in decision making
(3) Include medical interventions where applicable; e.g., nicotine patch
(4) Check understanding and reaffirm plan
(5) Set specific follow-up time

For patients who refuse, the precontemplation or contemplation phases, this is accepted with the indication that the provider will continue to explore the subject at subsequent visits.

5.3. Model 3 – mental health care

Summarized in Table 3, the mental health care (MHC) Model integrates Models 1 and 2 with cognitive-behavioral and pharmacological principles, adapted for primary care providers, to guide treatment.

In addition to demonstrating that the MHC Model is easily learned [9,22], we demonstrated in clinical trials that nurse practitioners [54] and family physicians [51] could deploy it effectively. In these trials on patients with medically unexplained symptoms and a 94% prevalence of DSM-IV and subsyndromal depression [69], the MHC Model was associated with clinically significant improvement in mental and physical health status, patient satisfaction, and physical disability. Prescriptions for addicting medications fell and those for antidepressants rose in a cost-neutral study [51,54,70]. These are rare clinical trials for mental health problems conducted by primary care providers, and they provide the evidence-based MHC Model proposed here.

The MHC Model adapts principles from successful experiences in multidisciplinary pain and other somatization management programs and from consultation-liaison psychiatry efforts with difficult, high utilizing patients [51,54,71–79]. All employed cognitive-behavioral treatments, which have been shown to be an effective management technique for primary care mental health problems like depression [80]. In the MHC Model, cognitive-behavioral treatment and its operant mechanisms are adapted for PCPs. For example, cognitive re-orientation, positive reinforcement for healthy behaviors, seeing no other caretakers or pharmacies without prior discussion, problem-solving treatment, and regular scheduling of all interventions are integral to treatment. Basic pharmacological principles also are integrated; e.g., STAR*D for depression treatment and standard detoxification and other approaches for handling prescription opiate misuse [81]. Subset models for cognitive re-orientation in patients presenting with medically unexplained symptoms, for antidepressant use, and for weaning narcotics and other addicting drugs are provided in Supplemental Digital Content Tables 3–5.

5.4. Model 4 – personal awareness

Outlined in Table 4, this rare research-based model helps learners identify incompletely recognized or unrecognized emotions and behaviors in themselves that can interfere with the DPR in providing psychosocial and mental health care [28,29], often interfering also with their own happiness in medicine. The aim is that learners better recognize the responses and, in turn, develop new behaviors to enhance care and decrease their own burnout.

Model 4 stems from work demonstrating a very high prevalence of incompletely recognized, often harmful (to the DPR) physician and student reactions to patients [55,57,58]. More extensively described elsewhere [28], this model for personal awareness training was shown to be associated with improved learning of basic patient centered interviewing [29].

Table 3
Evidence-based model providing mental health care.

Educate: inform and achieve understanding
(1) Identify patient's explanatory model and other interests; e.g., what they think is wrong and why, what evaluation and treatment expected.
(2) Correct any misattribution (reorientation and reattribution work may later be necessary in some)
(3) Emphasize in patients with chronic medically unexplained symptoms: ominous conditions not found; surgery, further testing, and consultation not needed; problem is somatic and real; their somatic diagnosis (e.g., irritable bowel) and its mechanism; stress, depression, and anxiety part of the problem and can be helped with medications; they are not a "psych case;" narcotics and tranquilizers aggravate the problem; and cure is not likely but can expect to improve. See SDC 3

Obtain a commitment
(1) Provide overview of proposed treatment and any options available in it
(2) Obtain explicit commitment, verbally, from the patient that they want to negotiate a program; where possible, obtain commitment from significant relatives or relationships

Set goals
(1) Long-term; e.g., decreased symptoms, improved functioning and well-being, less disruptive behavior, improved work/school record, improved relationships
(2) Short-term: these are individualized and represent the specific behaviors needed to achieve the immediate next step in the treatment plan; e.g., take medications in way negotiated, do exercise as negotiated. No more than 2–3 are negotiated at a time, and they should be achievable. Short term goals actualize the long-term goals.

Negotiate a specific plan (use as needed according to particular problems)
(1) Full-dose antidepressants where indicated for depression/anxiety; follow plan outlined by current depression trials using multiple antidepressants and monitor dose and type of antidepressant with the 9-item Patient Health Questionnaire (PHQ-9). See SDC 4
(2) Prescribe non-narcotic analgesics and other symptomatic medications on a non-PRN basis; e.g., nonsteroidals, low dose antidepressants in the non-depressed
(3) Taper and discontinue addicting medications; do not initiate or increase addicting medications at least until all other aspects of the program have been implemented and been ineffective. See SDC 5
(4) Use symptom diary to foster symptom reattribution work; infrequently needed
(5) Obtain baseline physical exercise capacity and prescribe regular, progressively increasing activity
(6) Deep breathing relaxation techniques
(7) Dietary counseling, especially around overweight
(8) Physical therapy and reconditioning
(9) Family visit with significant other
(10) Referral for specific, refractory problems: counseling, osteopathic manipulative treatment, medication recommendations from a mental health professional
(11) Attend actively to almost always present comorbid medical conditions, a key determinant of long-range outcome
(12) Provide support and common-sense advice
(13) Investigation and referral only with new, objective evidence of organic disease

5.5. Model 5 – team-based care

Learners employ the same principles outside the doctor–patient relationship regarding their interactions among, for example, mental health professionals, administrators, nurses, doctors, social workers, and case managers [24]. More specifically, summarized in Supplemental Digital Content Table 6, we recommend the chronic care model of Wagner and its application in collaborative care programs described by Katon et al. [82–84]. These principles are also applicable in team-based patient-centered approaches such as the patient-centered medical home and palliative care. The curricular recommendations we present also stem from our work on a consolidated inpatient ward where most residents' patients are assigned. This allows unique interactions with nurses in, for example, joint rounding, a first-name and friendly atmosphere, and open discussion of problems [41].

Table 4
Model for personal awareness training.

(a) Ensure personal awareness as a learner's objective
(b) Recognize previously unrecognized responses
(i) Consistent with the resident's comfort level, faculty respectfully raise emotional responses to their awareness and link them to a behavioral response
(ii) Later, we sometimes can facilitate learner's understanding of the origin and scope of the newly recognized responses
(c) Determine if the unrecognized responses (emotions, behaviors) are helpful or harmful
(d) Change harmful responses, the ones that do not mirror the patient's reality; e.g., anger at all alcoholics
(e) Encourage helpful responses, the ones that do mirror the patient's reality; e.g., feeling empathic
(f) None of the above work occurs on an individual basis but, rather, in a group setting, nor are we conducting psychotherapy; no more than 5–10 min at any one critique is devoted to personal awareness, its impact being from ongoing work over time and the group's support.
(g) To facilitate this work, we also encourage residents to work on improving their own *emotional awareness* in general; e.g., read stories of courage in face of patient suffering, read/watch emotion-laden material, re-visit music and art, and work with emotional people. We also recommend *other pursuits* that can broaden their emotional lives; e.g., physical exercise, mindfulness and other meditation techniques, taking personal time.

Appendix 1 summarizes these five models as the specific *teaching objectives*, and it also presents the *teaching methods* used to implement them in a largely attitude/skills-oriented program. Teaching comprises lecture/assigned reading, small group work, and, primarily, extensive clinical contact with real patients in situations mirroring their future practices.

6. A curriculum blueprint

We provide in Appendix 2, the specific curricular template of 300+ hours that we use and recommend here. We expand upon it in the following discussion. The inpatient consultation experience was later dropped, that time now spent in the mental health clinic; we present it here to show another option.

6.1. Resident year 1

Objectives 1 and 2 (basic communication/DPR and health behavior change) are addressed and go beyond simple interview training, with much time devoted to addressing the second part of Objective 1; e.g., integrating with doctor-centered interviewing, monitoring the DPR, working with family members and other caregivers who may accompany the patient to the visit and working with geriatric or adolescent patients. Learners also receive didactic instruction in the basic primary care mental health care issues in Objective 3 (MHC Model) and Objective 5. Finally, learners begin activities, largely group work but with some supporting lecture material, that will occur on a regular basis throughout training to address Objective 4 (personal awareness). Groups of residents, under faculty supervision, set their own direction following established principles for this work [85], typically including journaling, narrative medicine, and mindfulness activities.

6.2. Resident years 2–3

While continuing to attend to material from Objectives 1 and 2, the primary focus is Objective 3, with increased emphasis on Objectives 4 and 5. Learners use the MHC Model with distressed mental health patients in their usual clinic settings, approximately 75% of the total training time devoted to this activity. They are supervised by 2 psychiatrists and 2 skilled primary care faculty. These skills-based experiences required that we create a venue not

previously available: a *special mental health clinic* ("Complex Patient Clinic") in the same primary care site where learners see their regular patients. All types of patients listed in Objective 3 are seen. Lectures on DSM-IV and other diagnostic criteria and treatment, long-term follow-up of patients, and modeling by faculty are part of the teaching in addition to the direct patient experiences. We use standard psychiatry textbooks and other reference material in training [86–88]. Objective 5 (working collaboratively as a team) is addressed during these experiences as well as during regular (non-mental health) clinic and inpatient rotations. This is facilitated in the former by having an existing patient-centered medical home and in the latter by working on a single ward where residents patients are consolidated, which enables joint rounding with the nurses and case managers and joint sign-outs, for example [41]. Objective 4 (personal awareness) is taught throughout all years in bimonthly Balint-type meetings of 8–10 residents from two continuity clinics with their attending faculty as well as in critiquing all patient interactions during all years of training according to our research-based procedure [28,29].

At the completion of this training, the resident will be as competent with the items in Objective 3 as they are with medical conditions; e.g., depression, anxiety, non-adherence, prescription drug misuse. They will be able to manage most with these conditions and will have the skills to recognize their failures and make referrals to appropriate mental health professionals. While we train residents to recognize the more severe psychotic, personality, and substance abuse disorders, most are referred for treatment, although we do prepare residents to manage less severe forms of bipolar disorder.

7. Implementation and evaluation

We have trained two general medicine faculty who now are training 39 residents (13 per class) according to the objectives in Appendix 1 and the curriculum in Appendix 2. We plan an intensive quasi-experimental summative evaluation as well as a rigorous formative evaluation.

Because the models we propose are evidence-based, associated with improved health status in patients, and because of the urgency of the situation, we agree with the IOM, Healthy People 2020, and the AAMC that training should be implemented now. Similarly, the German experience of training PCPs and other medical providers in psychosocial medicine indicates that they achieve competence and are satisfied with the training, and that they are effective [5,6]. We and others conducting training of course would perform thorough evaluations of learners concurrently to guide us, but we strongly believe that national training efforts should not be delayed until there is evidence of positive patient outcomes resulting from the training itself. We do not require this for training in a new biomedical curriculum such as, for example, introducing a course in electrocardiography.

8. Discussion and conclusion

8.1. Discussion

This is the first effort that we know of to provide comprehensive, evidence-based curricular recommendations for mental health and psychosocial training for internal medicine residents. We formulated the curriculum to respond to urgent societal needs for improved psychosocial and mental health care and found guidance in existing but largely ignored theories of science (biopsychosocial model) and learning (social learning theory, sociocultural theory). The BPS model provides the basis for including the psychosocial dimensions needed to address the present gaps in diagnosis and management of the psychosocial and mental health issues seen in primary care. The learning theories provide the educational guidance for achieving success via point of care immersion and in mindful practice and personal awareness.

While the curriculum may be less relevant for some family medicine residents, our intent is to provide a comprehensive, evidence-based curriculum that can apply to all non-psychiatry residents. In addition to providing a template to guide others, we aim to stimulate the conversations that each institution must have if they are to prepare their graduates to be as competent and confident with mental health and psychosocial problems as they now are with medical problems. Starting with the objectives in Appendix 1, we suggest revising the specific curriculum in Appendix 2 in ways that best meet individual institutional needs and pedagogical concerns; i.e., "re-invent" them [89]. To be most effective, we recommend that each institution develop a specific, detailed curriculum, not just a list of competencies.

As educators formulate such curricula for each institution, it is essential not to be constrained by what presently is feasible or "realistic." Making that happen will be the future task of educational and political policy makers. Convinced of the need to better align training with societal needs, policy makers will ensure, for example, the curricular time, the faculty, the infrastructure, the administrative support, and the finances to implement these curricular changes in mental health training. Policy makers also will need to resolve, to mention just a few, the following related problems: reimbursement, billing codes, stigma of mental health problems, confidentiality in the electronic health record, and extension of training to medical schools. Once curricular needs are known, a top-down effort from policy makers will be needed [90,91]. Educational and political leaders, though, first must know the specific curricular needs.

8.2. Conclusion

Educational policy makers need specific curricular information to inform the major re-structuring that medical education must undergo to meet society's need for improved mental health and psychosocial care [7]. Encouragingly, many medical educators now recognize the need to realign training to better mirror societal needs [8,92].

8.3. Practice implications

Intensive, systematic training of primary care residents in mental health will lead to improved care for this very prevalent primary care population.

Conflict of interest

The authors have no conflict of interest.

Statement

I confirm all patient/personal identifiers have been removed or disguised so the patient/person(s) described are not identifiable and cannot be identified through the details of the story.

Acknowledgement

We are grateful for the generous support from the Health Resources and Services Administration (HRSA) (D58HP23259) that provides the opportunity to develop this curriculum.

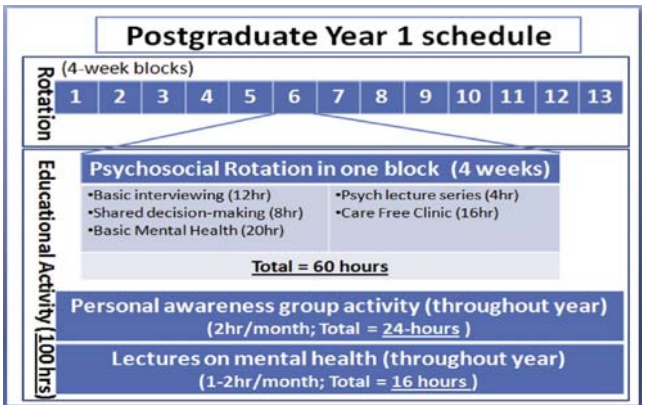
Appendix A

Learning objectives	Instructional methods
Following training, resident learners will have the knowledge, attitudes, and skills to:	
Objective 1 = Model 1 = communication and relationship (i) Master the 5-step, 21-substep interviewing model in Table 1. (ii) Master the following in terms of the model: efficiency, integration with disease-based interviewing, monitoring the doctor-patient relationship, personality types, obtaining difficult information from the patient (sexual, drug, abuse, marital), working with a 3rd person or an interpreter, integrating the computer and note-taking, difficult communication problems (hard of hearing, mute, blind, impaired cognition), and unique patient populations (geriatric, adolescent).	(1) Lecture/assigned readings provided. (2) Small groups: (i) review 5-step method, practice with role play/simulated patients and use with real patients; (ii) practice conditions listed in all venues. Introduce personal awareness work.
Objective 2 = Model 2 = basic treatment principles (i) Master model for providing routine information in SDC 1 (ii) Master model for giving bad news in SDC 2 (iii) Master model for shared decision-making to address tobacco cessation, weight control, and excessive alcohol/drug use in Table 2.	(1) Lecture/assigned readings provided (2) Small groups: practice conditions in the objective in role play/simulated patients and use with real patients. Continue personal awareness work.
Objective 3 = Model 3 = mental health care treatment Master the Mental Health Care Model (Table 3), including SDC 3–6, for the primary management of patients that addresses medically unexplained symptoms, depression, anxiety, suicidal ideation, drug/alcohol misuse, non-adherence, grief, stress, sexual concerns, working with families, end of life issues, psychopharmacology, cognitive-behavior and operant mechanisms, non-pharmacological interventions (e.g., counseling, exercise, relaxation), community resources, cultural competence and health literacy, and referral to (and co-management with) mental health professionals. Residents also will have the skills to diagnose and refer psychotic, substance abuse, and personality disorder but are trained to manage some with bipolar disorder.	(1) Lecture/assigned readings provided: all conditions in objective, including evidence-based model in Table 3 (2) Small groups: practice conditions in objective in role play/simulated patients. Continue personal awareness work. (3) Special mental health clinical experiences: i) Complex Patient Clinic; ii) Inpatient Consultation Service
Objective 4 = Model 4 = personal awareness Practice personal awareness of previously unrecognized responses to the patient as outlined in Table 4.	(1) Lecture/assigned readings provided: countertransference, emotion-laden material (2) Small groups: using guidelines in Table 4, facilitated by teachers and other learners in all venues, we explore the personal experience of the learner
Objective 5 = Model 5 = team/collaborative care Use patient-centered and relationship-centered practices in using the chronic care model in SDC 6 to work effectively with nurses, each other, case managers, social workers, mental health professionals, and other relevant personnel as a team for improving quality of care and patient safety.	(1) Lecture/assigned readings provided: medical safety, relationship-centered care (2) Small groups: discuss readings. Continue personal awareness work. (3) Special and routine clinical experiences: in all care venues, in- and out-patient, we facilitate relationship-centered practices to promote team-work.

Appendix B: Residency curricula

PGY-1 Sample Curriculum – 100+ hours per year

1) 60 h – One-month, full-time psychosocial rotation for groups of 5–7 residents. The following curriculum would use the *lecture/assigned readings* and *small group* format:
   - 16 h – Basic interviewing and advanced interviewing (*Objective 1*)
   - 12 h – Informing and motivating patients to healthier habits (shared decision-making); 4 h will be devoted to smoking cessation; the remainder of time will address diet and alcohol use, giving bad news, and providing routine information (*Objective 2*)
   - 20 h – Introduction to basic mental health care via discussion and role play: psychiatric interview, mental status evaluation, cognitive behavioral and pharmacological principles, suicide, depression, anxiety/panic disorder, unexplained symptoms/chronic pain, prescription substance misuse (*Objective 3*)
   - 8 h – Local indigent care-free clinic once weekly × weeks (4 h clinics) (*Objectives 1–5*)
   - 4 h – Psychiatry lecture series for 1 h weekly: unexplained symptoms, depression/anxiety, psychopharmacology, prescription substance misuse (*Objective 3*)
2) 40 h – Activities spread throughout the year:
   - 24 h – Group activity (2 h/month) aimed to develop personal awareness and personal support for the residents. In addition to group work and attendant journaling, this will include work on mindfulness meditation and narrative medicine – guided by interests of the group (*Objective 4*).
   - 16 h – Ongoing lecture series for all residents together will occur at a weekly teaching day with 16 separate one-hour lectures on various mental health topics from the Objectives. All topics will be covered twice every three years.



3) Variable number of hours – Additional mental health learning venues integrated with other training activities across the entire year.
- During Regular Inpatient Rotations (these are possible because of consolidation of most resident patients on one ward) – emphasize nurse-doctor communication and teamwork (*Objective 5*). Examples are:
  (i) regularly scheduled joint nurse-doctor morning report;
  (ii) nurse join rounds with resident ward team when her/his patient involved;
  (iii) senior resident make chart rounds with involved nurses before ward rounds;
  (iv) resident attends nurses' length of stay conference for her/his patient;
  (v) senior resident meets with charge nurse and/or case manager each day;
  (vi) junior resident rounds with staff nurses in evening.
- During Regular Ambulatory Clinics – foster teamwork, a team approach, and a broader systems perspective. Examples are a specific, ongoing curriculum to enhance teamwork:
  (i) regular meetings with the case manager to review the needs of their panel of patients;
  (ii) regular meetings with the social worker to learn how to link the patient's needs to resources in the community, specifically addressing settings of care, requirements for each setting, and home health care options for each setting;
  (iii) instruction in using the Automated Prescription System to detect prescription substance misuse;
  (iv) instruction in using the electronic record to identify unmet patient needs; e.g., lack of an office visit after hospital discharge or need for a mammogram or glycohemoglobin.
  (v) quality assurance screening projects on biopsychosocial topics involving residents' patients; e.g., do all patients have a PHQ-9 screen, use of full-dose antidepressants in all identified depressed patients, PHQ-9 to monitor depressed patients, automated prescription monitoring system use quarterly on all patients taking addicting substances, develop a protocol for overall management of all patients taking controlled substances on a chronic basis. Learners are assigned to these projects and assist in their conduct, supervised by faculty intrinsic to the clinic.
  (vi) enhance inter-professional activities via pharmacy student on-site in clinic (or ward).

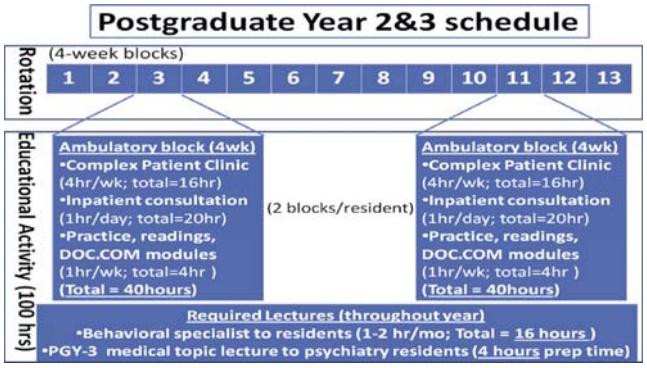
PGY-2/PGY-3 Sample Curriculum – 100+ hours per year

1) 80 h – Clinical experience on required ambulatory rotations.
   (i) 32 h – *Complex Patient Clinic* – patients understood to be difficult medically or psychosocially or both will be seen; i.e., chronic pain, prescription substance misuse, substance abuse, somatization, non-adherence, depression/anxiety/bipolar disorder, stress, unresolved grief, 'systems-problem,' sexual dysfunction, end of life issues, family dysfunction, maladjustment to chronic illness. (*Objective 3*)
   - Each resident would see 2–3 patients in a 3-h block with the 4th hour devoted to a conference at the end of the clinic for critiques of patients, interviewing a patient, and didactic presentations. Patients would come from residents' own clinics, referral from the rest of the department and elsewhere, and other known 'difficult' patients in the clinic.
   - Residents will be taught to make DSM-IV diagnoses where possible.

   (ii) 40 h – *Inpatient Consultation Service* – Residents will see difficult inpatients; e.g., narcotic abuse, altered mental status, suicidal attempt/ideation, non-adherence, drug detoxification and withdrawal, depression/anxiety, somatization and chronic pain, recurrent admissions for refractory problems, adjustment reactions (*Objective 3*).
   - Each resident will see one consultation daily from the residency teaching patients or other teaching services
   - Residents will make diagnoses, using DSM-IV and recommend treatment

   (iii) 8 h – *Assigned readings and doc.com* (2 h per week) – faculty and residents review this didactic material. (*Objective 3*).

   Residents also will work closely with established consultation services from psychiatry and learn when referral and/or co-management with a mental health professional are appropriate
2) 20 h – Two didactic experiences.
   (i) the same 16 h of ongoing lectures for PGY-1.
   (ii) residents prepare literature-based talks of integrated physical-mental health topics and present them to a regular conference (4 h).



3) Elective opportunity – re-take any of the preceding rotations working as co-teachers with faculty or continue previous experiences on the inpatient ward and in the systems-based clinics.

Appendix C. Supplementary data

Supplementary data associated with this article can be found, in the online version, at http://dx.doi.org/10.1016/j.pec.2013.09.010.

References

[1] Smith RC. Educating trainees about common mental health problems in primary care: a (not so) modest proposal. Acad Med 2011;86:e16.
[2] Wang P, Demler O, Olfson M, Pincus HA, Wells KB, Kessler R. Changing profiles of service sectors used for mental health care in the United States. Am J Psychiatry 2006;163:1187–98.
[3] Unutzer J, Schoenbaum M, Druss BG, Katon WJ. Transforming mental health care at the interface with general medicine: report for the presidents commission. Psychiatr Serv 2006;57:37–47.
[4] Norquist GS, Regier DA. The epidemiology of psychiatric disorders and the de facto mental health care system. Annu Rev Med 1996;47:473–9.
[5] Fritzschi K, Cierpka M, Wirsching M. Improving the biopsychosocial competence of German primary care physicians in diagnosing and treating somatoform disorders. In: Frankel RM, Quill TE, McDaniel SH, editors. The biopsychosocial approach: past, present, future. Rochester, NY: University of Rochester Press; 2003. p. 164–79.
[6] Hafner S, Petzold E-R. The role of primary care practitioners in psychosocial care in Germany. Permanente J 2007;11:52–5.
[7] Berwick DM, Finkelstein JA. Preparing medical students for the continual improvement of health and health care: Abraham Flexner and the new "public interest". Acad Med 2010;85:S56–65.
[8] Skochelak SE. A decade of reports calling for change in medical education: what do they say? Acad Med 2010;85:S26–33.
[9] Smith R, Dwamena F, Grover M, Coffey J, Frankel R. Behaviorally-defined patient-centered communication – a narrative review of the literature. J Gen Intern Med 2010;26:185–91.
[10] Feldman MD, Feldman S. The primary care behaviorist: a new approach to medical/behavioral integration. J Gen Intern Med 2013;28:331–2.
[11] Kern DE, Thomas PA, Hughes MT. Curriculum development for medical education – a six-step approach. Baltimore, MD: The Johns Hopkins University Press; 2009.
[12] Bleakley A, Bligh J, Browne J. Medical education for the future. New York: Springer; 2011.
[13] Hodges BD. A tea-steeping or i-Doc model for medical education? Acad Med 2010;85:S34–44.
[14] Ludmerer KM. The history of calls for reform in graduate medical education and why we are still waiting for the right kind of change. Acad Med 2012;87:34–40.
[15] Mann K, Dornan T, Teunissen P. Perspectives on learning. In: Dornan T, Mann K, Scherpbier A, Spencer J, editors. Medical education – theory and practice. Edinburgh: Churchill Livingstone; Elsevier; 2011.
[16] Mann KV. Theoretical perspectives in medical education: past experience and future possibilities. Med Educ 2011;45:60–8.
[17] Hodges B. The many and conflicting histories of medical education in Canada and the USA: an introduction to the paradigm wars. Med Educ 2005;39:613–21.
[18] Hodges BD, Kuper A. Theory and practice in the design and conduct of graduate medical education. Acad Med 2012;87:25–33.
[19] Prideaux D, Bligh J. Research in medical education: asking the right questions. Med Educ 2002;36:1114–5.
[20] Engel GL. The need for a new medical model: a challenge for biomedicine. Science 1977;196:129–36.
[21] Fossli Jensen B, Gulbrandsen P, Dahl FA, Krupat E, Frankel RM, Finset A. Effectiveness of a short course in clinical communication skills for hospital doctors: results of a crossover randomized controlled trial (ISRCTN22153332). Patient Educ Couns 2011;84:163–9.
[22] Smith RC, Lyles JS, Mettler J, Stoffelmayr BE, Van Egeren LF, Marshall AM, et al. The effectiveness of intensive training for residents in interviewing. A randomized, controlled study. Ann Intern Med 1998;128:118–26.
[23] Smith R, Fortin AH, Dwamena VI, Frankel FR. An evidence-based patient-centered method makes the biopsychosocial model scientific. Patient Educ Couns 2013;90:265–70.
[24] Inui TS. What are the sciences of relationship-centered primary care. J Fam Pract 1996;42:171–7.
[25] Kusurkar RA, Croiset G, Mann KV, Custers E, Ten Cate O. Have motivation theories guided the development and reform of medical education curricula? A review of the literature. Acad Med 2012.
[26] Bandura A. Social cognitive theory: an agentic perspective. Annu Rev Psychol 2001;52:1–26.
[27] Dornan T, Boshuizen H, King N, Scherpbier A. Experience-based learning: a model linking the processes and outcomes of medical students' workplace learning. Med Educ 2007;41:84–91.
[28] Smith RC, Dwamena FC, Fortin VIA. Teaching personal awareness. J Gen Intern Med 2005;20:201–7.
[29] Smith RC, Dorsey AM, Lyles JS, Frankel RM. Teaching self-awareness enhances learning about patient-centered interviewing. Acad Med 1999;74:1242–8.
[30] McHugh PR, Slavney PR. The perspectives of psychiatry. Baltimore, MD: The Johns Hopkins University Press; 1986. 162.
[31] Burns BJ, Scott JE, Burke Jr JD, Kessler LG. Mental health training of primary care residents: a review of recent literature (1974–1981). Gen Hosp Psychiatry 1983;5:157–69.
[32] Cohen J, Clark SB. John Romano and George Engel – their lives and work. Rochester, NY: Meliora Press, University of Rochester Press; 2010. 281.
[33] Goldberg DP, Steele JJ, Smith C, Spivey L. Training family doctors to recognise psychiatric illness with increased accuracy. Lancet 1980;2:521–3.
[34] Institute of Medicine. Crossing the quality chasm: a new health system for the 21st century. Washington, DC: National Academy Press; 2001, 364.
[35] HHS. In: U.S.D.o.H.a.H.S. Office of Disease Prevention and Health Promotion, editor. Healthy people 2020: the road ahead. Washington, DC: US Government Printing Office; 2011.
[36] IOM. Improving medical education: enhancing the behavioral and social science content of medical school curricula. Washington, DC: National Academy of Sciences; 2004.
[37] AAMC. Behavioral and social science foundations for future physicians – report of the behavioral and social science expert panel. Washington, DC: American Association of Medical Colleges; 2011.
[38] Kaplan RM, Satterfield JM, Kington RS. Building a better physician – the case for the new MCAT. N Engl J Med 2012;366:1265–8.
[39] Leigh H, Stewart D, Mallios R. Mental health and psychiatry training in primary care residency programs. Part I. Who teaches, where, when and how satisfied? Gen Hosp Psychiatry 2006;28:189–94.
[40] Chin HP, Guillermo G, Prakken S, Eisendrath S. Psychiatric training in primary care medicine residency programs. A national survey. Psychosomatics 2000;41:412–7.

[41] Laird-Fick H, Solomon D, Jodoin C, Dwamena F, Alexander K, Rawsthorne L, et al. Training residents and nurses to work as a patient-centered care team on a medical ward. Patient Educ Couns 2011;84:90–7.
[42] Kroenke K, Taylor-Vaisey A, Dietrich AJ, Oxman TE. Interventions to improve provider diagnosis and treatment in mental disorders in primary care – a critical review of the literature. Psychosomatics 2000;41:39–52.
[43] Hodges B, Inch C, Silver I. Improving the psychiatric knowledge, skills, and attitudes of primary care physicians, 1950–2000: a review. Am J Psychiatry 2001;158:1579–86.
[44] Bower P, Gilbody S. Managing common mental health disorders in primary care: conceptual models and evidence base. Brit Med J 2005;330:839–42.
[45] STFM. Society of teachers of family medicine. Leawood, KS: Society of Teachers of Family Medicine; 2013.
[46] WONCA. World Organization of Family Doctors. Bangkok, Thailand: World Organization of Family Doctors; 2013.
[47] Kroenke K. The interface between physical and psychological symptoms. Prim Care Companion J Clin Psychiatry 2003;5(Suppl. 7):11–8.
[48] Collins C, Hewson D, Munger R, Wade T. In: Fund MM, editor. Evolving models of behavioral health integration in primary care. New York: Milbank Memorial Fund; 2010.
[49] Wittchen HU, Lieb R, Wunderlich U, Schuster P. Comorbidity in primary care: presentation and consequences. J Clin Psychiatry 1999;60(Suppl. 7):29–36 [discussion 37–28].
[50] Butler M, Kane R, McAlpine D, Kathol R, Fu S, Hagedorn S, et al. Integration of mental health/substance abuse and primary care no. 173 (Prepared by the Minnesota Evidence-based Practice Center). Rockville, MD: AHRQ; 2008. 190.
[51] Smith R, Gardiner J, Luo Z, Schooley S, Lamerato L. Primary care physicians treat somatization. J Gen Intern Med 2009;24:829–32.
[52] Smith RC, Gardiner JC, Lyles JS, Sirbu C, Dwamena FC, Hodges A, et al. Exploration of DSM-IV criteria in primary care patients with medically unexplained symptoms. Psychosom Med 2005;67:123–9.
[53] Smith RC, Lein C, Collins C, Lyles JS, Given B, Dwamena FC, et al. Treating patients with medically unexplained symptoms in primary care. J Gen Intern Med 2003;18:478–89. PMCID: PMC1494880.
[54] Smith RC, Lyles JS, Gardiner JC, Sirbu C, Hodges A, Collins C, et al. Primary care clinicians treat patients with medically unexplained symptoms – a randomized controlled trial. J Gen Intern Med 2006;21:671–7. PMCID: PMC1924714.
[55] Smith RC. Unrecognized responses by physicians during the interview. J Med Educ 1986;61:982–4.
[56] Smith RC. Use and management of physicians' feelings during the interview. In: Lipkin M, Putnam SM, Lazare A, editors. The medical interview. New York: Springer-Verlag; 1995. p. 104–9.
[57] Smith RC, Zimny G. Physicians' emotional reactions to patients. Psychosomatics 1988;29:392–7.
[58] Smith RC. Teaching interviewing skills to medical students: the issue of 'countertransference'. J Med Educ 1984;59:582–8.
[59] Skeff K. Successful models of faculty development train the trainer model. In: The Nuts and Bolts of Faculty Development for General Internal Medicine, Family Medicine, and General Pediatrics Conference. Orlando, FL: US Dept of Health and Human Services, Health Resources and Services Administration, and The Ambulatory Pediatric Association; 1998. p. 49–54. p. 142–5.
[60] Palmer PJ. The courage to teach: exploring the inner landscape of a teacher's life. San Francisco: Jossey-Bass; 1998, 199 pp..
[61] Palmer PJ. Reflections on a Program for "The Formation of Teachers"; 1992.
[62] McKeachie WJ. Recent research on university learning and teaching: implications for practice and future research. Acad Med 1992;67:s84–7.
[63] Cohen-Cole SA. The medical interview: the three function approach. St. Louis: Mosby-Year Book Inc.; 1991.
[64] Lazare A, Putnam S, Lipkin M. In: Lipkin M, Putnam S, Lazare A, editors. Three functions of the medical interview. New York: Springer-Verlag; 1995. p. 3–19.
[65] Fortin AH, Dwamena VI, Frankel F, Smith RRC. Smith's evidence-based interviewing: an evidence-based method. New York: McGraw-Hill; 2012, 284 pp..
[66] Finset A, Mjaaland TA. The medical consultation viewed as a value chain: a neurobehavioral approach to emotion regulation in doctor–patient interaction. Patient Educ Couns 2009;74:323–30.
[67] Andersen TE. Does attachment insecurity affect the outcomes of a multidisciplinary pain management program? The association between attachment insecurity, pain, disability, distress, and the use of opioids. Soc Sci Med 2012;74:1461–8.
[68] Joosten EA, Defuentes-Merillas L, de Weert GH, Sensky T, van der Staak CP, de Jong CA. Systematic review of the effects of shared decision-making on patient satisfaction, treatment adherence and health status. Psychother Psychosom 2008;77:219–26.
[69] Smith RC, Gardiner JC, Lyles JS, Sirbu C, Dwamena FC, Hodges A, et al. Exploration of DSM-IV criteria in primary care patients with medically unexplained symptoms. Psychosom Med 2005;67:123–9. PMCID: PMC1894627.
[70] Luo Z, Goddeeris J, Gardiner J, Lyles J, Smith RC. Costs of an intervention for primary care patients with medically unexplained symptoms – a randomized controlled trial. Psychiatr Serv 2007;58:1079–86. NIHMSID: PMCID: PMC2633637.
[71] Cutler RB, Fishbain DA, Rosomoff HL, Abdel-Maty E, Khalil TM, Rosomoff RS. Does nonsurgical pain center treatment of chronic pain return patients to work? – a review and meta-analysis of the literature. Spine 1994;19:643–52.
[72] Kashner TM, Rost K, Cohen B, Anderson MA, Smith Jr GR. Enhancing the health of somatization disorder patients: effectiveness of short term group therapy. Psychosomatics 1995;36:462–70.
[73] Klimes I, Mayou RA, Pearce MJ, Coles L, Fagg JR. Psychological treatment for atypical noncardiac chest pain: a controlled evaluation. Psychol Med 1990;20:605–11.
[74] Peters J, Large RG, Elkind G. Follow-up results from a randomised controlled trial evaluating in- and outpatient pain management programmes. Pain 1992;50:41–50.
[75] Rost K, Kashner TM, Smith Jr GR. Effectiveness of psychiatric intervention with somatization disorder patients: improved outcomes at reduced costs. Gen Hosp Psychiatry 1994;16:381–7.
[76] Sharpe M, Peveler R, Mayou R. The psychological treatment of patients with functional somatic symptoms: a practical guide. J Psychosom Res 1992; 36:515–29.
[77] Smith Jr GR, Rost K, Kashner TM. A trial of the effect of a standardized psychiatric consultation on health outcomes and costs in somatizing patients. Arch Gen Psychiatry 1995;52:238–43.
[78] Warwick HMC, Clark DM, Cobb AM, Salkovskis PM. A controlled trial of cognitive-behavioural treatment of hypchondriasis. Br J Psychiatry 1996; 169:189–95.
[79] Katon W, von Korff M, Lin E, Walker E, Simon GE, Bush T, et al. Collaborative management to achieve treatment guidelines: impact on depression in primary care. J Amer Med Assoc 1995;273:1026–31.
[80] Kroenke K, Swindle R. Cognitive-behavioral therapy for somatization and symptom syndromes: a critical review of controlled clinical trials. Psychother Psychosom 2000;69:205–15.
[81] Rush AJ. STAR*D: what have we learned? Am J Psychiatry 2007;164:201–4.
[82] Katon W, Russo J, Lin EH, Schmittdiel J, Ciechanowski P, Ludman E, et al. Cost-effectiveness of a multicondition collaborative care intervention: a randomized controlled trial. Arch Gen Psychiatry 2012;69:506–14.
[83] Katon WJ, Lin EH, Von Korff M, Ciechanowski P, Ludman EJ, Young B, et al. Collaborative care for patients with depression and chronic illnesses. N Engl J Med 2010;363:2611–20.
[84] Wagner EH. Chronic disease management: what will it take to improve care for chronic illness? Eff Clin Pract 1998;1:2–4.
[85] Yalom ID. The theory and practice of group psychotherapy. New York: Basic Books Inc.; 1985, 590 pp..
[86] American Psychiatric A. Diagnostic and statistical manual of mental disorders – DSM-IV. Washington, DC: American Psychiatric Association; 1994, 886 pp..
[87] Schneider RK, Levenson JL. Psychiatry essentials for primary care. Philadelphia: American College of Physicians; 2008, 274 pp..
[88] APA. Diagnostic and statistical manual of mental disorders. Washington, DC: American Psychiatric Association; 2013, 947 pp..
[89] Rogers E. Diffusion of innovations. New York: Free Press; 2003.
[90] Kessler R, Glasgow RE. A proposal to speed translation of healthcare research into practice: dramatic change is needed. Am J Prev Med 2011;40:637–44.
[91] Kiefe CI, Sales A. A state-of-the-art conference on implementing evidence in health care. Reasons and recommendations. J Gen Intern Med 2006;21(Suppl. 2):S67–70.
[92] Wonca. Companion to primary care mental health. New York: Wonca (World Organization of Family Doctors) and Radcliffe Publishing; 2012, 715 pp..