Communication Skills in the Medical Curriculum

Jorin LindenSmith, BSc, MD '00
Faculty of Medicine, Dalhousie University, Halifax, Nova Scotia

The interpersonal skills of physicians are an integral factor in the delivery of medical care. Communication between physician and patient affects a variety of medical outcomes ranging from successful diagnosis to compliance with treatment (1,2). This article explores the literature with respect to communication skills in the medical setting. The need for competence in this area is briefly introduced and the literature examining the current state of communication skills in the medical community is reviewed. Finally, issues pertaining to the education of students in this important, yet under-represented area, will be discussed.

THE PROBLEM

Poor communication in the patient-doctor relationship is an unfortunate reality. A 1995 Canadian survey indicated that over one-third of Canadians are dissatisfied with their physicians, while a similar percentage reported physician behaviour as "arrogant" or "insensitive" (3).

Both physicians and patients have perceived the problem. Physicians have reported that 20-25% of general practice visits result in communication difficulties (4). This is likely an underestimation, as it has been shown that physician evaluation of the terminology that patients understand is often inaccurate and the extent of mis-communication is under-recognized (4).

The literature indicates that personal concern displayed by caregivers is valued more by patients than biomedical skill (5). Issues of importance to patients include exploring the presenting problem thoroughly, expressing empathy and caring, handling patients' feelings, using comforting and listening skills, being attentive to verbal cues, using open-ended questions, involving patients in decisions, inspiring trust, and expressing interest in patients' opinions (6).

THE IMPORTANCE OF COMMUNICATION

Good communication can change the outcome of a medical encounter. Both physiological parameters, such as blood pressure, and psychosocial concerns can be altered by communication techniques in the therapeutic relationship (6). Patient satisfaction with physicians leads to increased compliance, less "physician shopping," and a higher likelihood of seeking care at an appropriate time (7). One study discovered that physician behaviour had a more profound impact on compliance with treatment than did the patient's own behaviour (8).

In contrast, poor communication has been repeatedly cited as one of the main factors in patients' legal pursuit of malpractice (5,9). It has been shown that patients are adversely affected when information about poor prognosis is conveyed in an insensitive manner (10). Patients who have complained about the conduct of their doctor have consistently described that the caregiver failed to provide information about treatment, did not include the patient in the decision-making process as a partner, or neglected to treat them with respect and interest (9).

THE STATE OF MEDICAL COMMUNICATION SKILLS

There have been several studies examining the interactive abilities of medical students and physicians. The communication

Address correspondence to:
Jorin LindenSmith
Box 43, Sir Charles Tupper Medical Building, Dalhousie University,
Halifax, Nova Scotia, B3H 4H7

skills of staff internists were evaluated by Duffy *et al.* in response to an American Board of Internal Medicine document stating that internists must be skilled in communication, delivery of empathic care, and attention to patient's emotional needs and their impact on health (11). Results of this research indicated clear lack of skill in communication, which the authors attributed to overemphasis on the medical and scientific aspects of health during undergraduate medical education (12).

Medical residents have reported feeling inadequately trained and uncomfortable with emotionally-laden communication tasks, despite the frequency with which they must perform them (6). One study evaluating the ability of general medicine residents to convey negative prognostic information found a "general lack of competence" among the participating group (13). In a survey of inpatients, researchers determined that the majority were satisfied with the physician care that they received. However, patients observed many deficits in interpersonal communication, particularly with respect to including the patient as a partner in medical care and expressing concern about personal life and interests (5).

Earlier literature has shown a general decline in positive communication behaviour during undergraduate medical education, with first-year students performing significantly better in this area than their senior counterparts (14). Final-year students have also been found to be less caring, empathic, and supportive after a four-year medical education which tends to emphasize disease processes rather than the more humanistic aspects of medicine (5,15).

The results of a recent study are more comforting (16). In an effort to address the issue of degenerating interpersonal skills, medical schools have recognized the need for more interpersonal skills training. After updates to the curriculum, research revealed that the communications skills of the senior students studied did improve over the course of medical school. The authors attributed this new finding to curricular change and the introduction of limited teaching which addresses communication.

ISSUES IN MEDICAL EDUCATION

While these findings which show a positive trend in medical education are encouraging, instruction of students continues to be overwhelmingly centred on knowledge and technical skills while the 'softer' aspects of clinical competence are neglected. As one researcher commented, "medical education pays lip service to communication and interpersonal relations while remaining disease-oriented in its approach." (17)

The majority of Canadian schools offer communication skills training, but there is a great discrepancy in the amount and quality of teaching provided: the instruction ranges from a single two-hour session at one school to a half-day per week over two years at another (18). These courses are largely centred on the medical interview (19). A recent survey of British medical schools revealed that very few actually incorporate teaching and evaluation of communication skills into the regular curriculum (17). It is encouraging that Dalhousie University is now undergoing an extensive investigation of the state of communication skills among students, faculty, and other health professionals in order to improve educational programs at the school.

There is a clear consensus in the literature that the time devoted to teaching interpersonal skills is vastly disproportionate to the amount of future clinical work occupied with their use. Some authors suggest that medical schools avoid taking responsibility for student behaviour by providing little of the difficult teaching in communication, resting on the belief that such skills are either inherent or will be picked up by experience in the hospitals with senior role models (17). Surveys indicate that many practicing physicians regard good communication as an innate ability that one either possesses or does not, while others believe that only experience can promote the acquisition of proper communication techniques (6,9,19).

Experts in the area affirm that the opposite is true (6,19). Although challenging to teach and evaluate, interpersonal skills can be learned and retained by medical students. Training students to handle communication tasks can result in a significant increase in positive behaviours, especially with respect to providing reassurance and reflection of patient feelings. Education also promotes greater confidence among students in their ability to handle difficult situations (20). Marteau *et al.* conducted a randomized control study of two student groups, a control population which received no education and an intervention group instructed specifically in interpersonal behaviour (21). The results demonstrated that training did improve communication performance.

Evidence of retaining learned communication skills may not be as favourable. One study examining the long-term effectiveness of interpersonal skills training revealed no significant difference between residents who had received training during medical school and those who had not (22). While short-term improvements in communications skills can be achieved with training, this data indicates that such skills can be lost. It is now accepted that positive communication is a skill that *can* be acquired and must be integrated permanently into clinical training in order to be preserved (23).

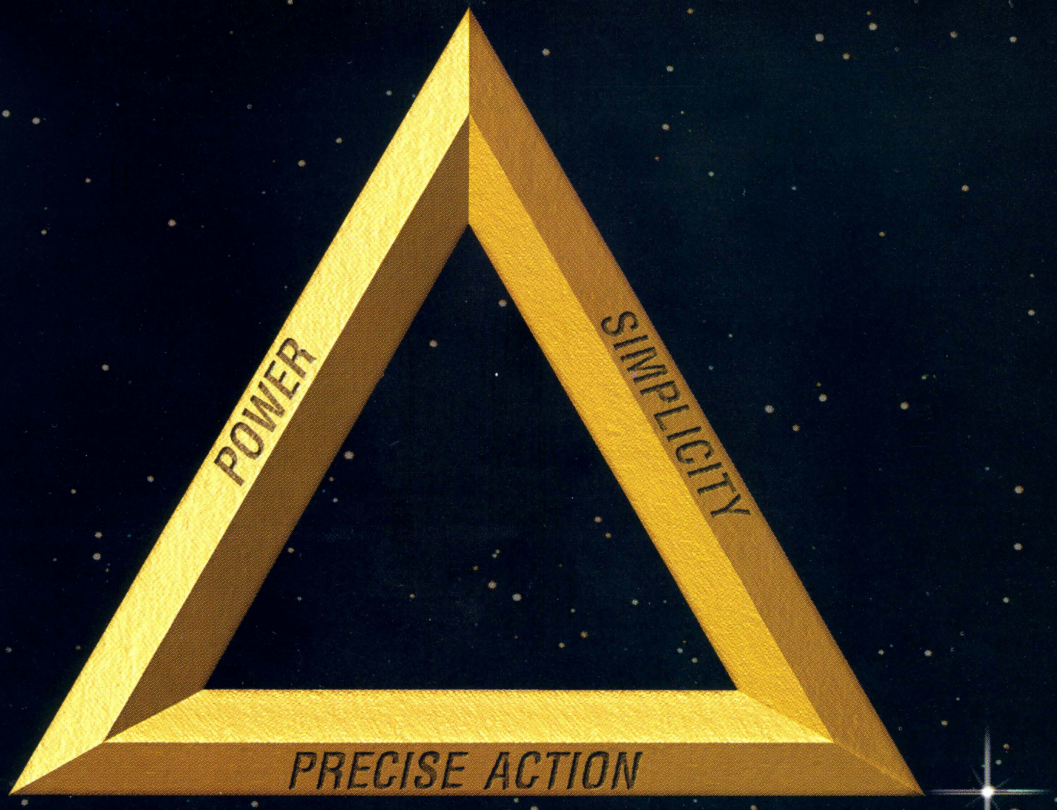
Like most aspects of medicine, feedback and practical experience with communication is likely needed to maintain learned abilities. Unassessed components of undergraduate education are traditionally relegated to secondary importance, in favour of those subjects in which excellence is seen to be key to positive recognition and advancement. A study by Maguire *et al.* demonstrated that medical students who were allocated to a group receiving feedback with training maintained their superiority over those in the control group (24).

BARRIERS TO BEHAVIOUR CHANGE

One significant obstacle to improving the interpersonal interaction of students is the lack of adequate role models in the medical community. Communications teaching has been hampered by the belief among many professionals that knowl-

NEW Avapro

Proven in controlled clinical trials to combine powerful antihypertensive control with placebo-level tolerability[1,2]



...for simplified patient management

Pr Avapro* (irbesartan) 150 mg

Angiotensin II AT_1 Receptor Blocker

Bristol-Myers Squibb Pharmaceutical Group

sanofi *Trademark of Sanofi

AVAPRO is indicated for the treatment of essential hypertension when diuretics or beta-blockers are found ineffective or have been associated with unacceptable adverse effects; and as initial therapy in patients in whom the use of diuretics or beta-blockers is contraindicated. AVAPRO may be used alone or concomitantly with thiazide diuretics.

AVAPRO should not be used in pregnant women and should, as with other antihypertensive agents, be prescribed with caution in the elderly. Most common adverse reactions are headache, musculoskeletal pain, dizziness and fatigue.

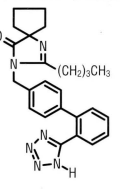
PAAB
PMAC MEMBER

1. Kassler-Taub K et al. *Am J Hypertens* 1998;11(pt.1):445-453. 2. Avapro product monograph, Bristol-Myers Squibb/Sanofi Canada.

PrAVAPRO* (irbesartan)
Tablets, 75, 150 and 300 mg
THERAPEUTIC CLASSIFICATION
Angiotensin II AT_1 Receptor Blocker
ACTION AND CLINICAL PHARMACOLOGY
AVAPRO (irbesartan) antagonizes angiotensin II by blocking AT_1 receptors. Angiotensin II is the primary vasoactive hormone in the renin-angiotensin system. Its effects include vasoconstriction and the stimulation of aldosterone secretion by the adrenal cortex. Irbesartan blocks the vasoconstrictor and aldosterone-secreting effects of angiotensin II by selectively blocking in a non competitive manner the binding of angiotensin II to the AT_1 receptor found in many tissues. Irbesartan has no agonist activity at the AT_1 receptor. AT_2 receptors have been found in many tissues, but to date they have not been associated with cardiovascular homeostasis. Irbesartan has essentially no affinity for the AT_2 receptors. Irbesartan does not inhibit angiotensin converting enzyme, also known as kininase II, the enzyme that converts angiotensin I to angiotensin II and degrades bradykinin, nor does it affect renin or other hormone receptors or ion channels involved in cardiovascular regulation of blood pressure and sodium homeostasis. **Pharmacokinetics:** Irbesartan is an orally active agent. The oral absorption of irbesartan is rapid and complete with an average absolute bioavailability of 60%-80%. Irbesartan exhibits linear pharmacokinetics over the therapeutic dose range with an average terminal elimination half-life of 11-15 hours. Following oral administration, peak plasma concentrations are attained at 1.5-2 hours after dosing. Steady-state concentrations are achieved within 3 days. Irbesartan is 90% protein-bound in the plasma, primarily to albumin and α_1-acid glycoprotein. The average volume of distribution of irbesartan is 53-93 liters. Total plasma and renal clearances are in the range of 157-176 and 3.0-3.5 mL/minute, respectively. Irbesartan is metabolized via glucuronide conjugation, and oxidation by the cytochrome P-450 system. Following either oral or intravenous administration of ^{14}C-labeled irbesartan, more than 80% of the circulating plasma radioactivity is attributable to unchanged irbesartan. The primary circulating metabolite is the inactive irbesartan glucuronide (approximately 6%). The remaining oxidative metabolites do not add appreciably to the pharmacologic activity. Irbesartan and its metabolites are excreted by both biliary and renal routes. Following either oral or intravenous administration of ^{14}C-labeled irbesartan, about 20% of radioactivity is recovered in the urine and the remainder in the feces. Less than 2% of the dose is excreted in urine as unchanged irbesartan. *In vitro* studies of irbesartan indicate that the oxidation of irbesartan is primarily by cytochrome P-450 isoenzyme CYP 2C9. Metabolism of irbesartan by CYP 3A4 is negligible. Irbesartan is neither metabolized, nor does it substantially induce or inhibit the following isoenzymes CYP 1A1, 1A2, 2A6, 2B6, 2D6, 2E1. There was no induction or inhibition of CYP 3A4. In subjects over the age of 65 years, irbesartan elimination half-life was not significantly altered, but AUC and C_{MAX} values were about 20-50% greater than those of young subjects. The mean AUC and C_{MAX} were not altered in patients with any degree of renal impairment, including patients on hemodialysis. However, a wide variance was seen in patients with severe renal impairment. The pharmacokinetics of irbesartan following repeated oral administration were not significantly affected in patients with mild-to-moderate cirrhosis of the liver. No data is available in patients with severe liver disease. **Pharmacodynamics:** In healthy subjects, single oral doses of irbesartan up to 300 mg produced dose-dependent inhibition of the pressor effect of angiotensin II infusions. The pressor effect of angiotensin II was completely blocked (≥90%) at the time of peak irbesartan concentrations; 60% and 40% inhibition persisted for 24 hours following doses of 300 mg and 150 mg, respectively. In hypertensive patients, A-II receptor inhibition following chronic administration of irbesartan causes a 1.5-2 fold rise in A-II plasma concentration and a 2-3 fold increase in plasma renin levels. Aldosterone plasma concentrations generally decline following irbesartan administration, however serum potassium levels are not significantly affected at recommended doses. During clinical trials, minimal incremental blood pressure response was observed at doses greater than 300 mg. The blood pressure lowering effect of irbesartan is apparent after the first dose and substantially present within 1-2 weeks, with the maximal effect occurring by 4-6 weeks. In long-term studies, the effect of irbesartan appeared to be maintained for more than one year. There was essentially no change in average heart rate in patients treated with irbesartan in controlled trials. There is no rebound effect after withdrawal of irbesartan. Black hypertensive patients had a smaller blood pressure response to irbesartan monotherapy than caucasians.
INDICATIONS AND CLINICAL USE AVAPRO (irbesartan) is indicated for the treatment of essential hypertension. AVAPRO may be used alone or concomitantly with thiazide diuretics. AVAPRO should normally be used in those patients in whom treatment with diuretic or beta-blocker was found ineffective or has been associated with unacceptable adverse effects. AVAPRO can also be tried as an initial agent in those patients in whom the use of diuretics and/or beta-blockers is contraindicated or in patients with medical conditions in which these drugs frequently cause serious adverse effects. The safety and efficacy of concurrent use with angiotensin converting enzyme inhibitors have not been established. **CONTRAINDICATIONS** AVAPRO (irbesartan) is contraindicated in patients who are hypersensitive to any component of this product. **WARNINGS Pregnancy:** Drugs that act directly on the renin-angiotensin system can cause fetal and neonatal morbidity and death when administered to pregnant women. When pregnancy is detected, AVAPRO (irbesartan) should be discontinued as soon as possible. The use of drugs that act directly on the renin-angiotensin system during the second and third trimesters of pregnancy has been associated with fetal and neonatal injury, including hypotension, neonatal skull hypoplasia, anuria, reversible or irreversible renal failure, and death. Oligohydramnios has also been reported, presumably resulting from decreased fetal renal function; oligohydramnios in this setting has been associated with fetal limb contractures, craniofacial deformation, and hypoplastic lung development. Prematurity, intrauterine growth retardation, and patent ductus arteriosus have also been reported, although it is not clear whether these occurrences were due to exposure to the drug. These adverse effects do not appear to have resulted from intrauterine drug exposure that has been limited to the first trimester. Mothers whose embryos and fetuses are exposed to an angiotensin II receptor antagonist only during the first trimester should be so informed. Nonetheless, when patients become pregnant, physicians should have the patient discontinue the use of irbesartan as soon as possible. Rarely (probably less often than once in every thousand pregnancies), no alternative to an angiotensin II receptor antagonist will be found. In these rare cases, the mothers should be apprised of the potential hazards to their fetuses, and serial ultrasound examinations should be performed to assess the intra-amniotic environment. If oligohydramnios is observed, irbesartan should be discontinued unless it is considered life-saving for the mother. Contraction stress testing (CST), a non-stress test (NST), or biophysical profiling (BPP) may be appropriate, depending upon the week of pregnancy. Patients and physicians should be aware, however, that oligohydramnios may not appear until after the fetus has sustained irreversible injury. Infants with histories of *in utero* exposure to an angiotensin II receptor antagonist should be closely observed for hypotension, oliguria, and hyperkalemia. If oliguria occurs, attention should be directed toward support of blood pressure and renal perfusion. Exchange transfusion may be required as means of reversing hypotension and/or substituting for disordered renal function. Irbesartan is not removed by hemodialysis. **Hypotension:** Occasionally, symptomatic hypotension has occurred after administration of irbesartan, in some cases after the first dose. It is more likely to occur in patients who are volume depleted by diuretic therapy, dietary salt restriction, dialysis, diarrhea, or vomiting. In these patients, because of the potential fall in blood pressure, therapy should be started under close medical supervision (see DOSAGE AND ADMINISTRATION). Similar considerations apply to patients with ischemic heart or cerebrovascular disease, in whom an excessive fall in blood pressure could result in myocardial infarction or cerebrovascular accident.
PRECAUTIONS Renal Impairment: As a consequence of inhibiting the renin-angiotensin-aldosterone system, changes in renal function have been seen in susceptible individuals. In patients whose renal function may depend on the activity of the renin-angiotensin-aldosterone system, such as patients with bilateral renal artery stenosis, unilateral renal artery stenosis to a solitary kidney, or severe congestive heart failure, treatment with agents that inhibit this system has been associated with oliguria, progressive azotemia, and rarely, acute renal failure and/or death. In susceptible patients, concomitant diuretic use may further increase risk. Use of irbesartan should include appropriate assessment of renal function. **Valvular Stenosis:** There is concern on theoretical grounds that patients with aortic stenosis might be at particular risk of decreased coronary perfusion when treated with vasodilators because they do not develop as much afterload reduction. **Use in Nursing Mothers:** It is not known whether AVAPRO (irbesartan) is excreted in human milk, but measurable levels of radioactivity was shown to be present in milk of lactating rats. Because many drugs are excreted in human milk, and because of their potential for affecting the nursing infant adversely, a decision should be made whether to discontinue nursing or discontinue the drug, taking into account the importance of the drug to the mother. **Use in Children:** Safety and effectiveness have not been established. **Use in the Elderly:** Of the 4,140 hypertensive patients receiving irbesartan in clinical studies, 793 patients were 65 years of age and over. No overall age-related differences were seen in the adverse effect profile but greater sensitivity in some older individuals cannot be ruled out. **DRUG INTERACTIONS Diuretics:** Patients on diuretics, and especially those in whom diuretic therapy was recently instituted, may occasionally experience an excessive reduction of blood pressure after initiation of therapy with AVAPRO. The possibility of symptomatic hypotension with the use of AVAPRO can be minimized by discontinuing the diuretic prior to initiation of treatment and/or lowering the initial dose of irbesartan (see WARNINGS - Hypotension, and DOSAGE AND ADMINISTRATION). No drug interaction of clinical significance has been identified with thiazide diuretics. **Agents increasing Serum Potassium:** Since AVAPRO decreases the production of aldosterone, potassium-sparing diuretics or potassium supplements should be given only for documented hypokalemia and with frequent monitoring of serum potassium. Potassium-containing salt substitutes should also be used with caution. **Lithium Salts:** As with other drugs which eliminate sodium, lithium clearance may be reduced. Therefore, serum lithium levels should be monitored carefully if lithium salts are to be administered. **Warfarin:** When irbesartan was administered as 300 mg once daily under steady-state conditions, no pharmacodynamic effect on PT was demonstrated in subjects stabilized on warfarin. **Digoxin:** When irbesartan was administered as 150 mg once daily under steady-state conditions, no effect was seen on the pharmacokinetics of digoxin at steady-state. **ADVERSE REACTIONS** AVAPRO (irbesartan) has been evaluated for safety in more than 4,100 patients with essential hypertension including approximately 1,300 patients for over 6 months and 400 patients for 1 year or more. In placebo-controlled clinical trials, therapy was discontinued due to a clinical adverse event in 3.3 percent of patients treated with irbesartan, versus 4.5 percent of patients given placebo. The following potentially serious adverse reactions have been reported rarely with irbesartan in controlled clinical trials: syncope, hypotension. Adverse events occurring in 1% or more of the 2,606 hypertensive patients in placebo-controlled clinical trials include the following:

Body System/Reaction	AVAPRO n = 1,965 Incidence (%)	Placebo n = 641 Incidence (%)
General		
Abdominal pain	1.4	2.0
Chest pain	1.8	1.7
Edema	1.5	2.3
Fatigue	4.3	3.7
Cardiovascular		
Tachycardia	1.2	0.9
Dermatologic		
Rash	1.3	2.0
Gastrointestinal		
Diarrhea	3.1	2.2
Dyspepsia/Heartburn	1.7	1.1
Nausea/Vomiting	2.1	2.8
Musculoskeletal/Connective Tissue		
Musculoskeletal pain	6.6	6.6
Nervous System		
Anxiety/Nervousness	1.1	0.9
Headache	12.3	16.7
Dizziness	4.9	5.0
Respiratory		
Cough	2.8	2.7
Urogenital System		
Urinary Tract Infection	1.1	1.4

The incidence of hypotension or orthostatic hypotension occurred in 0.4% of irbesartan treated patients, unrelated to dosage, and in 0.2% of patients receiving placebo. In addition, the following potentially important events occurred in less than 1% of patients receiving irbesartan, regardless of drug relationship: **Body as a Whole:** fever; **Cardiovascular:** flushing, hypertension, myocardial infarction, angina pectoris, arrhythmic/conduction disorder, cardio-respiratory arrest, heart failure, hypertensive crisis; **Dermatologic:** pruritus, dermatitis, ecchymosis, erythema, urticaria, photosensitivity; **Endocrine:** sexual dysfunction, libido change, gout; **Gastrointestinal:** constipation, gastroenteritis, flatulence, distention abdomen, hepatitis; **Musculoskeletal:** muscle cramp, arthritis, myalgia, muscle weakness; **Nervous System:** sleep disturbance, numbness, somnolence, vertigo, depression, paresthesia, tremor, transient ischemic attack, cerebrovascular accident. **Renal/Genitourinary:** abnormal urination; **Respiratory:** epistaxis, tracheobronchitis, pulmonary congestion, dyspnea, wheezing; **Special Senses:** visual disturbance, hearing abnormality, conjunctivitis, taste disturbance. Angioedema (involving swelling of the face, lips, and/or tongue) has been reported rarely in post marketing use. **Laboratory Test Findings** In controlled clinical trials, clinically important differences in laboratory tests were rarely associated with AVAPRO. **Liver Function Tests:** In placebo-controlled trials, elevations of AST and ALT ≥ 3X upper limit of normal occurred in 0.1% and 0.2%, respectively, of irbesartan treated patients, compared to 0.3% and 0.3%, respectively, of patients receiving placebo. The cumulative incidence of AST and/or ALT elevations ≥ 3X upper limit of normal was 0.4% in patients treated with irbesartan for a mean duration of over 1 year. **Hyperkalemia:** In placebo-controlled trials, greater than a 10% increase in serum potassium was observed in 0.4% of irbesartan treated patients compared to 0.5% of patients receiving placebo. **Creatinine, Blood Urea Nitrogen:** Minor increases in blood urea nitrogen (BUN) or serum creatinine were observed in less than 0.7% of patients with essential hypertension treated with AVAPRO alone versus 0.9% on placebo. **Hemoglobin:** Mean decreases in hemoglobin of 0.16g/dL were observed in patients receiving AVAPRO. No patients were discontinued due to anemia. **Neutropenia:** Neutropenia ($<1,000$ cells/mm^3) was observed in 0.3% of irbesartan treated patients compared to 0.5% of patients receiving placebo. In clinical trials, the following were noted to occur with an incidence of < 1%, regardless of drug relationship: anemia, thrombocytopenia, lymphocytopenia, and increased CPK. **SYMPTOMS AND TREATMENT OF OVERDOSAGE** No data are available in regard to overdosage in humans. The most likely manifestations of overdosage would be hypotension and/or tachycardia; bradycardia might also occur in this setting. AVAPRO (irbesartan) is not removed by hemodialysis. **DOSAGE AND ADMINISTRATION** Initiation of therapy requires consideration of recent antihypertensive drug treatment, the extent of blood pressure elevation, salt restriction, and other pertinent clinical factors. The dosage of other antihypertensive agents used with AVAPRO (irbesartan) may need to be adjusted. AVAPRO may be administered with or without food. The recommended dose of AVAPRO is 150 mg once daily. In patients whose blood pressure is not adequately controlled, the daily dose may be increased to 300 mg. No initial dosage adjustment is required in the elderly, or in patients with renal impairment (see ACTION AND CLINICAL PHARMACOLOGY - Pharmacokinetics and PRECAUTIONS - Use in the Elderly). However, due to the apparent greater sensitivity of hemodialysis patients, an initial dose of 75 mg is recommended in this group of patients. No initial dosage adjustment is required in patients with mild-to-moderate hepatic impairment (see ACTION AND CLINICAL PHARMACOLOGY - Pharmacokinetics). **Concomitant Diuretic Therapy:** In patients receiving diuretics, AVAPRO therapy should be initiated with caution, since these patients may be volume-depleted and thus more likely to experience hypotension following initiation of additional antihypertensive therapy. Whenever possible, all diuretics should be discontinued 2 to 3 days prior to the administration of AVAPRO to reduce the likelihood of hypotension (see WARNINGS - Hypotension, and PRECAUTIONS - Drug Interactions). If this is not possible because of the patient's condition, AVAPRO should be administered with caution and the blood pressure monitered closely. The recommended starting dose of AVAPRO is 75 mg once daily in hypovolemic patients (see WARNINGS - Hypotension). Thereafter, the dosage should be adjusted according to the individual response of the patient.
DRUG SUBSTANCE
Tradename: AVAPRO
Proper Name: irbesartan
Chemical Name: 2-butyl-3-[(2^1-(1*H*-tetrazol-5-yl) biphenyl-4-yl)methyl]-1,3-diazaspiro[4,4]non-1-en-4-one.
Empirical Formula: $C_{25}H_{28}N_6O$
Molecular Weight: 428.5
Structural Formula:



Description: Irbesartan is a white to off-white crystalline powder. It is a nonpolar compound with a partition coefficient (octanol/water) of 10.1 at a pH of 7.4. Irbesartan is slightly soluble in alcohol and methylene chloride and practically insoluble in water.
COMPOSITION In addition to the active ingredient, irbesartan, each tablet contains lactose, microcrystalline cellulose, pregelatinized starch, croscarmellose sodium, silicon dioxide, poloxamer 188 and magnesium stearate.
AVAILABILITY OF DOSAGE FORMS
AVAPRO (irbesartan) 75 mg tablets are white to off-white biconvex, oval tablets, with a heart shape debossed on one side and the digits 2771 on the other. AVAPRO (irbesartan) 150 mg tablets are white to off-white biconvex, oval tablets, with a heart shape debossed on one side and the digits 2772 on the other. AVAPRO (irbesartan) 300 mg tablets are white to off-white biconvex, oval tablets, with a heart shape debossed on one side and the digits 2773 on the other. AVAPRO 75, 150 and 300 mg tablets are available in bottles of 90 tablets. AVAPRO (irbesartan) tablets can be stored at room temperature (15-30°C).
A Product Monograph is available upon request.

sanofi
Bristol-Myers Squibb
Pharmaceutical Group
*Trademark of Sanofi
Distributed by Bristol-Myers Squibb/Sanofi Canada
Montreal, Qc H4N 2M7
1 800 267-0005
PAAB
PMAC MEMBER

edge in medicine is more important to the delivery of care than are skills in communication, despite the fact that research supports the strong correlation between patient satisfaction and the interpersonal behaviour of physicians (9). The literature outlines the lack of appropriate faculty development and supports the need for constructive mentors during medical training (18,25).

There is evidence that the climate is changing. Over the past several decades, observers have sensed a shift in the medical community's perception of the importance of positive interpersonal interactions in the therapeutic relationship. Continuing medical education courses addressing the topic have been met with enthusiasm among physicians. After attending workshops teaching communications skills, many participants expressed regret that these were not part of the medical school curriculum despite their importance and relatively easy acquisition (10).

Unfortunately, it may prove harder to pique the interest of students with little clinical experience, who may not yet recognize the importance of interpersonal relations. The field of medicine is vast, with much information to master, and such "soft" material is often considered secondary to more concrete subjects such as physiology and pharmacology at the undergraduate level. This may nonetheless be the appropriate time for introduction. Distinguished researchers Byrne and Long have documented that medical students become fixed in their interaction style during these formative years (26).

CONCLUSIONS AND RECOMMENDATIONS

This review highlights several important issues surrounding the interpersonal skills of medical students and physicians. It is clear that such abilities are integral to the proper practice of medicine and are as equally important to patients as intellectual competence. Positive physician-patient interactions do affect medical outcomes and alter major parameters such as compliance, response to treatment, and satisfaction with care.

Similarly, it is a consensus that the communication skills of practising physicians and residents are in need of improvement and can be attributed to the state of training in the area rather than a simple reflection of innate ability. The literature supports the idea that better interaction can be taught and retained over the long term, provided that there is sufficient feedback and encouragement by positive role models.

Many perceive medicine as an established institution with an inherent resistance to change. Medical curricula have evolved over the past century, but the changes have been slow and often not in response to changes in attitudes within the medical community. The medical clerkship and residency have retained the same basic form as they have for decades: they reflect an era of different health care needs, resources, and patient afflictions (17).

Accordingly, interpersonal skills must be regarded as essential and integrated components of medical behaviour, and periodic assessment and feedback must also be provided to ensure the maintenance of these skills among students and their role models. As noted by Frederikson *et al.* "... until there is a profession-wide adoption of training that successfully integrates didactic, experiential and modelling sources of learning, the acquisition of communication skills by doctors will remain problematic." (17)

It is clear that communication skills have too profound an effect on medical outcomes to be relegated to haphazard teaching or to assumptions regarding their acquisition. Medical schools must assume responsibility for instruction in this area and assign communication skills their deserved emphasis in the curriculum.

REFERENCES

1. Carter W, Kukull W, Haigh V. Outcome based doctor-patient interaction analysis: Identifying effective provider and patient behaviour. *Med Care* 1982;20:520-535.
2. Laidlaw T, Langille D, MacLeod H. The Dalhousie MedCom Report. Division of Medical Education, Dalhousie Faculty of Medicine, June 1997.
3. Posner M, Demont, J. Feverish relations: The traditional doctor-patient relationship is breaking down as a result of government cutbacks and patients demanding to be treated as customers. Maclean's. Nov 13, 1995, 52-59.
4. Pendleton D, Hasler J. Doctor-Patient Communication. London: Academic Press Inc, 1983.
5. Matthews D, Sledge W, Lieberman, P. Evaluation of intern performance by medical inpatients. *Am J Med* 1997;83:938-943.
6. Garg A, Buckman R, Kason Y. Teaching medical students how to break bad news. *Can Med Assoc J* 1997;156(8):1159-64.
7. Wolliscroft J, Howell J, Pater B, Swanson D. Resident-patient interactions: the humanistic quality of internal medicine residents assessed by patients, attending physicians, program supervisors and nurses. *Acad Med* 1994;69(3):216-24.
8. Stewart M. What is a successful doctor-patient interview? A study of interactions and outcomes. *Soc Sci Med* 1984;19(2):167-175.
9. Parrott R, Huff T, Kilgore M, Williams M. Peer discussion on training physicians to be competent communicators: Support for a multiple discourse approach. *South Med J* 1997;90(7):709-19.
10. Faulker A, Argent J, Jones A. Improving the skills of doctors in giving distressing information. *Medical Educ* 1995;29:303-307.
11. Duffy D, Hamerman D, Cohen M. Communications Skills of House Officers. *Annals Internal Med* 1980;93:354-357.
12. Woodard, L, Pamies, R. The disclosure of the diagnosis of cancer. *Primary Care* 1992;19(4):657-663.
13. Eggly S, Afonso N, Rojas G, Baker M. An assessment of residents' competence in the delivery of bad news to patients. *Acad Med* 1997;72:397-399.
14. Helfer R. An objective comparison of the pediatric interviewing skills of freshman and senior medical students. *Pediatrics* 1970;45:623-7.
15. Scott N, Donnelly M, Hess J. Changes in interviewing styles of medical students. *J Med Educ* 1975;50:1124-6.
16. Davis H, Nicholaou, T. A comparison of the interviewing skills of first and final year medical students. *Medical Educ* 1992;26:441-447.
17. Frederikson L, Bull P. An appraisal of the current status of communication skills training in British medical schools. *Soc Sci Med* 1992;34(5):515-522.
18. Cowan D, Laidlaw J, Russell M. Results of surveys completed by undergraduate deans regarding the teaching and evaluation of doctor/patient communication skills: Follow up on "Workshop on the Teaching and Assessment of Communication skills in Canadian Medical School". Canadian Cancer Society, Unpublished paper, 1997.

19. Morgan E, Winter R. Teaching communications skills: An essential part of residency training. *Arch Pediatr Adolesc Med* 1996;150:638-642.
20. Wolraich M, Albanese M, Stone G, Shymansky J, Mendez A. The effects of training medical students to convey distressful information. *J Med Educ* 1984;59:751-753.
21. Marteau T, Humphrey C, Martoon G, Kidd J, Lloyd M, Horder J. Factors influencing communications skills of first year clinical medicine students. *Medical Educ* 1991;25:127-134.
22. Kauss, D, Robbins A, Abrass I, Bakaitis R, Anderson L. The long-term effectiveness of interpersonal skills training in medical schools. *J Med Educ* 1980;55:595-601.
23. Irwin W, Bamber J. An evaluation of medical student behaviours in communication. *Medical Educ* 1984;18:90-95.
24. Maguire P, Fairbairn S. Fletcher C. Consultation skills of young doctors. *BMJ* 1986;292:1573-1578.
25. Maguire G, Roe P, Goldberg D, Jones S, Hyde C, O'Dowd T. The value of feedback in teaching interviewing skills to medical students. *Psychological Med* 1978;8:695.
26. Byrne P, Long B. Doctors Talking to Patients. London: Her Majesty's Stationary Office, 1976.

AUTHOR BIOGRAPHY

Jorin is a native of Calgary, Alberta. She received a BSc in physiology from McGill University in 1995. Currently in her third year of medical school at Dalhousie University, Jorin's present research is in the field of respirology under the supervision of Drs. D. Morrison and P. Hernandez. She is aspiring to pursue a career in internal medicine.