Reducing Communication Apprehension in Pharmacy Students¹

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Pharmacy is moving toward a more service-oriented clinical role. By definition the clinical pharmacist will encounter a greater degree of both physican and patient contact. Effective communication requires both the necessary skills and a willingness or desire to engage in communication. Communication apprehension (CA) is an individual's level of fear or anxiety associated with either real or anticipated communication. High CA people are not likely to engage in communication. Traditional skills training courses may make the problem of the high apprehensive worse rather than better, Previous studies and current unpublished data indicate that at least one out of four or five pharmacy students is severely communication apprehensive. These students will become high CA pharmacists if left "untreated". Therefore, a course has been developed to reduce CA levels in students. Results indicate that CA levels can be significantly reduced by using the interventions discussed.

The expanded role of the pharmacist as a member of the health care team has been increasingly emphasized in the pharmacy literature and in colleges of pharmacy. Pharmacy is moving toward a more service-oriented clinical role. The entire dispensing function must include communication of drug information to the patient. The acceptance of the clinical role of the pharmacist brings numerous new responsibilities and necessary

capabilities. By definition, the clinical pharmacist will encounter a greater degree of both patient and physician contact. Communication implies much more than the possession or provision of information; it is a behavioral skill.

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To develop and assess the communication ability and skills of our nation's pharmacy students, Eli Lilly and Company, in cooperation with the American Association of Colleges of Pharmacy, has sponsored a series of Pharmacy Educators Communication Skills Workshops since 1977. A Source Book was compiled which contains copies of syllabi and other teaching and reference material used by the colleges of pharmacy in teaching communications skills. The effort of both these organizations is laudatory. However, the teaching of communication skills, at best, only solves half of the problem.

In 1970, McCroskey (1) advanced the original conceptualization of *communication apprehension* (CA). Communication apprehension is "an individual's level of fear or anxiety associated with either real or anticipated communication with another person or persons" (2). A person with a high level of CA tends to avoid communication much of the time. In addition, the pharmacist with high CA would not only be expected to talk less with patients than other pharmacists do, but also to talk less about professional concerns. The pharmacist with high CA would not likely be perceived as a credible source of drug information or as an intelligent person (4).

It is important to keep in mind that communication apprehension and communication skills are quite different. The former is cognitive while the latter is behavioral. They are two separate and distinct dimensions of the communication process. Figure 1 illustrates this dichotomy. A person can have excellent communication skills, but still have high CA (Cell III). This individual will do a good job of communicating when forced to communicate, however, this individual will also avoid communicating when possible. These are people who should not be apprehensive about communicating because their skills are good, yet they are apprehensive. They have an irrational cognition. They don't believe they have good skills (low selfesteem, negative expectations). An analogy would be people who shoot foul throws well in practice (80 percent), but choke and shoot horribly in a game (30 percent). These people need training to reduce apprehension more than additional skills training.

	Hi Skill	Lo Skill	
Lo CA	1	11 ;	
Hi CA	111	IV	

Fig. 1. Communication skill, apprehension dichotomy.

At the other extreme would be people in Cell II: those with poor skills and low apprehension. These people should experience high CA, but don't. This group consists of poor communicators who aren't anxious about it. Training here will be totally different than for individuals in Cell III who needed emphasis on anxiety reduction. Training for this group involves acquiring communication skills. Ultimately we would like all groups to be in Cell I. The point is that for many students, skills training is not sufficient. In fact, McCroskey and others point out that traditional speech and communication skills courses may make the problem of communication apprehension worse rather than better (3).

The West Virginia University (WVU) School of Pharmacy uses an interview as a criterion for acceptance of students to pharmacy school. The class Baldwin studied (4) had approximately 3 applicants per open slot, while the class examined in this study had 1.5 applicants per slot. It is conceivable that the interviewing process is quite good at screening out high CA students when there are multiple candidates per slot. High CA students may do poorly in an interview. Hence, the class examined by Baldwin would be expected to have a lower proportion of high CA students.

SERIOUSNESS OF THE PROBLEM

An earlier study of West Virginia University pharmacy students suggested that "approximately one of every five pharmacists may be a person with high CA." (4) Current unpublished data suggest that the rate of high CA may actually be higher'. The West Virginia University study concluded by stating, ". . . . it is apparent that students with high levels of communication apprehension are at a severe disadvantage in courses where grading is based, either wholly or in part, on the demonstrated ability to communicate. In addition, the evaluation of knowledge, synthesis or application via the student's demonstrated communication skills will result in a lower than otherwise justified evaluation for high CA students. It is obvious that, if communication skills themselves are evaluated, students with high CA will (may) perform poorly, even if communication skills are a curricular component" (4).

This dilemma poses a problem for the profession of pharmacy. It is certainly not in the best interest of pharmacy or patients to graduate students whose anxiety or apprehension about communication is so severe that they avoid contact with patients or other health professionals (or that contact is detrimental). Since it is not reasonable (and probably unethical) to prevent high CA people from entering pharmacy school, a systematic approach is needed to reduce CA levels in high CA people.

REDUCING COMMUNICATION APPREHENSION

As mentioned previously, traditional training in communication skills has been found to make the problems of students with high CA worse rather than better. Overcoming high CA requires either clinical or quasi-clinical methods (5). Systematic desensitization, cognitive modification, and assertiveness training all hold great promise as treatment modalities (6-8).

Systematic desensitization has been cited in the psychology literature as an effective behavior therapy technique in reducing anxiety (6). It involves both relaxation therapy and a hierarchial approach to understanding and reducing anxieties.

Cognitive modification, as well as systematic desensitization is based on learning theory. Cognitive modification involves getting people to realize that they have learned (been conditioned) to think negatively about themselves and that they can be taught to think positively. It involves making people aware of their own negative statements, behaviors, and cognitions and then changing these (7).

Assertiveness training involves teaching people how to more effectively obtain desired goals in social interactions (8). This method is based on the concept that people have a right to and responsibility for their own actions and behaviors (9).

A COMMUNICATION COURSE FOR REDUCING CA

'In the summer of 1980, a communication course was developed at the West Virginia University School of Pharmacy. The primary objectives of the course were to:

 (i) significantly reduce communication apprehension in pharmacy students (particularly high CA students), and

(ii) increase the communication skills of the students. The first objective was of paramount importance (since skills training techniques were already well developed) and will

be the focus of this report. While a systematic reduction in communication apprehension had been accomplished in other

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disciplines, such an approach had not been attempted for pharmacy students (3,10,11).

METHODOLOGY

The subjects in this study included all students enrolled in the WVU School of Pharmacy's required course entitled, "Professional Aspects of Pharmacy'Practice'" It is a semester long (15 weeks), three credit hour course. A total of 68 students were enrolled. The class was divided alphabetically into two sections. Each section was taught by the same instructor and met approximately two and one-half hours each week. Smaller sections were necessary to "personalize" the class. Students in the first section were asked not to discuss the activities in their section with the second one. Attendance in the class was mandatory. Students were told that each unexcused absence would cost them a letter grade.

The CA levels of the students in the study were determined by the Personal Report of Communication Apprehension (PRCA), which is the most widely used measure of CA.' It has been demonstrated to be highly reliable and valid⁶ (1,12). Instrument reliability for pharmacy students was 0.92. Testretest reliability was 0.76, which indicated the *stable enduring* nature of CA (4).

The PRCA was given to the students in each section on the first day of class. They were asked to fill it out and sign their name on it. All students volunteered to fill out the instrument. No explanation of the instrument or its purpose was given to the students. They were simply told that it would be explained to them at the end of the semester. Fifteen weeks later, at the end of the semester, the same students filled out the PRCA again in order to measure what effects, if any, the course had on reducing communication apprehension. After that time, the purpose of the course, and the PRCA, was explained to the students.

COURSE CONTENT AND EXPERIMENTAL

Analogs of systematic desensitization, cognitive modification, and assertiveness training were all used in an attempt to reduce communication apprehension in the students. Along with these methods, actual communication skills and techniques were discussed and demonstrated.

In general, anxiety associated with communication is lowest in informal dyadic communication and highest in formal public speaking (especially to peers) (13). Therefore, a hierarchial approach to anxiety reduction similar to that employed in systematic desensitization was undertaken. The first class involved randomly pairing students together and asking them to interview each other for ten minutes. Each student would then introduce the other to the class. They could stay seated or stand, whichever was more comfortable for them. Students could ask each other anything they wanted. However, each student had to identify what made them happy, angry, sad, and what they felt they could do better than most people.

The purpose of this session was to personalize the class for the students by allowing them to get to know their classmates in a more intimate manner. Moreover, it forced all students to make at least one positive statement about themselves (cognitive modification). Finally, it was believed this type of situation would create some anxiety in students, but even high CA students would be able to handle it quite well. Students reported verbally that they enjoyed the session. In fact, the overwhelming response from the class was that it was unfortunate that they didn't get to know each other better before this. Some students said that the person they interviewed was someone that they had never even talked to before, and that they felt they had made a new friend.

Each of the aforementioned stages moved the students into a higher anxiety communication level. Communication skills were taught at each stage. After (and during) each stage students were constantly reinforced and reminded how well they did and that they survived. This last point is very important in the desensitization process. Students needed to be made aware that they came through the anxiety all right and they would again in the furge. They were reminded that if they could survive their anxiet if front of their peers, think how much easier it would be outside of the classroom. At each level, the type of fears and apprehensions they had were discussed openly. They were told that their fears were normal, but they were conditioned and could be changed (cognitive modification). They were also told of steps they could take to reduce their anxieties. Just the fact that everyone in class was aware that to some extent all of their classmates were anxious seemed to reduce anxiety levels.

In addition to the anxiety hierarchy, a great deal of time was spent on changing the students' cognitions about themselves and communication in general. Many examples were given concerning the assumptions people make when they communicate, why communication breaks down, how they communicate nonverbally, manipulation and expectations in the communication process, and how we understand each other. Of fundamental importance was a discussion of the facts that words have no inherent meanings. People and context give words meanings. As just one example, students were told that if they really believed that words always meant the same thing to everyone, they should walk up to an 85 year old patient and say "What's happening" or "I know where you're coming from" The importance of this type of discussion is to point out to students that communications really does take at least two people and that there generally are no rights or wrongs. At least two people must take responsibility for effective communication, not just the student.

Students were required to read two books for the course, Your Erroneous Zones by W.W. Dyer' and When I Say No I Feel Guilty by M.J. Smith'. These books formed the foundation for assertiveness training in the class. The books and subsequent discussions, along with the use of the techniques described in the books during role plays, gave the students some tools in order to obtain ''equality'' in communication with others. It helped provide a feeling that hey had a right to equality in communications.

In general, classes were held informally. Lectures were not structured. Lectures were discussions of topics with the class. Students were encouraged, but not forced, to participate in classroom discussion. The room had moveable chairs so that a circle could be formed for these discussions. Students were

⁴Within the WVU pharmacy curriculum, communication skills are a component during the second professional year.

The PRCA questionnaire has been published previously. See McCroskey, J.C., Commun. Monog. 45, 192(1978). Interested readers may also contact the authors.

"While this questionnaire is designed as a measure of the subjects cognitive « orientation toward communication and is not a measure of actual behavior, numerous studies have indicated the high association of the scores on the PRCA with actual communication behavior. It is particularly highly associated with amount of talk in which the individual is willing to produce and the likelihood of an individual withdrawing from or avoiding communication situations (1,12,13).

⁷An example of a role play and a description of its objectives and major problem is available from the author.

⁸Funk and Wagnalls Co., New York NY (1976). ⁹Bantam Books, Inc., New York NY (1975).

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Table I. Mean commu	nication apprehension	levels before and	after exposure to course.
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	Before	-	After	Student t	Statistical significance	. Wilcoxon T"	•	
Mean (N) ^a -All Students Mean (N) -Hi CA group	62.4 (64)	1	56.4 (64)	5.40	P <0.001	4.55		
	80.13(16) 70.06 (16)	3.02	P \$0.005	2.00				

"Four students missed class either during the first or last administration of the PRCA and had to be removed from the study

constantly praised when they contributed. A consistent remark observed in the teacher evaluations was that it was one of the most relaxed classes students had been in and that the class encouraged them to talk.

The next phase of the class dealt with group dynamics. Organizational games and a game (The Kidney Machine Game) that involved choosing which member of the group would be allowed to live (and the rest would die) were played to involve each class member in group communication. All games required input from each group member. While the class said that the games were both fun and informative (collective bargaining, etc. was taught), it was believed anxiety levels would be slightly higher in this situation than before, since each person would be required to state their views to members of their group.

Role playing in front of a video-tape camera and classmates was the next step in the hierarchy. Each student was required to do at least one role play as either a patient, physician or a pharmacist. They were videotaped and then the role play was constructively reviewed by the class and instructor. Role plays were done in small groups (no larger than twelve) consisting only of those people required to do a role play that week. In this manner, individual attention, and some coaching, could be given to each student, and an attempt could be made to deal with the student's anxiety on an individualized basis. The role play was viewed by the entire class the following week.' This situation represented a new, higher level of anxiety, especially for high CA students. Not only did the student have to get up in front of the group, but (s)he was also being evaluated by his/her peers.

During the final weeks of the class, each student was required to prepare and present a 5-10 minute talk to their classmates. This presentation was to be the introduction to a longer talk. Students were required to have topics approved by the instructor and identify to what audience they would actually present the talk. For example, a talk on birth control to a PTA group might be quite different than the same topic given to high school students. Both the students and instructor evaluated the presentations by using an instrument developed by the instructor. While some comments were made after each presentation, all students were required to see the instructor individually in order to find out their presentation score. In this manner, the instructor could privately discuss the presentation with the student in a calm, relaxed atmosphere.

The purpose of this last phase was to introduce the students to the final and highest level of anxiety. In addition, the presentations were a good and effective way to illustrate to the students that, as pharmacists, they could actually go out and give the presentations. This would not only be beneficial to them, but also to the profession and their community.

RESULTS

Table I reports both "Before" and "After." mean PRCA scores for all students and the Hi CA group. The Personal Report of Communication Apprehension (PRCA) instrument has a range of 20 to 100. High scores represent high communication apprehension. Negative responses ("Strongly Disagree") to statements ("I have no fear of facing an audience") were given high scores, indicating high CA. The obtained range was 33-98. The mean and standard deviation, before exposure to the class, for all students were 62.14 and 12.44, respectively. The standard deviation is consistent with those observed in previous studies utilizing large samples (10,000 or more) or college students and adults (13). The mean is somewhat higher than that observed in studies with larger samples. The typical mean is approximately 60.0.

The Hi CA group or those students identified as severely communication apprehensive is defined as scores that are higher than one standard deviation above the mean of the general population (12). For this study, students with PRCA scores of 72 and above were classified as high CA. Therefore, 25 percent (16 out of 64) of the students in the study were classified as high CA. One out of four students was severely communication apprehensive before exposure to the course, and may become pharmacists with high CA if not treated.

T-tests based upon paired dependent observations were used to determine if exposure to the course significantly reduced CA in all students and in the Hi CA group based upon the students' change scores. A reduction in CA would result in lower PRCA scores. Table 1 illustrates that exposure to the course did, indeed, reduce CA significantly for both all students (P<0.001) and the high CA group (P<0.005).

Since the PRČA scores are based on data collected from Likert scales, and since some scores improved dramatically above others (two students had improvement scores of over 30 units each), a nonparametric test was also used to analyze the data. The Wilcoxon Sign Rank procedures was felt to be fairer than a *t*-test since nonparametric procedures are not sensitive to outliers in the data. These results also indicate that exposure to , the course produced significant reductions (P(0.003) in communication apprehension (see Table 1).

Pearson's product moment correlation was used to determine if a consistent or near linear change took place for all students or if the Hi CA group changed consistently or spuriously. The pretest, posttest scores correlated significantly (r = 0.79, P < 0.001) indicating the reduction in communication apprehension was relatively consistent for the class as a whole as well as for high CA students. Change was nearly linear. Thus, the observed effect was not the function of an artifact of measurement (regression).

The fact that a control group was not used raises the question of a test-retest problem (14). In other words, could a reduction in CA be a result of readministering the PRCA? Several previous studies have looked at this problem (2,3,13). While some reduction in PRCA scores did occur with no intervention (3,5 units), they were significantly lower than reductions achieved through the use of intervention techniques. Moreover, this study showed an average reduction in PRCA scores of 6 units overall and 10 units for high CA students.

An observation was consistently made when students came in to find out their presentation grades (based upon instructor and student evaluations). Those students with high CA but good

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skills consistently expressed amazement when told that their presentation was evaluated positively. In other words, they undervalued their own skills. These were people in the high CA, high skill group. Pharmacists in this group, that are not treated, will avoid communicating because they won't believe they have the skills, either. This condition is not conducive to the development of the profession or its clinical role.

CONCLUSIONS AND IMPLICATIONS

Several important conclusions may be drawn from this study. Communication apprehension is a very real problem. In this study, 25 percent of the pharmacy students were severely communication apprehensive. These people, if left untreated, could become tomorrow's pharmacists with severe CA. This poses a problem for the profession.

Systematic desensitization, cognitive modification and assertiveness training are effective in significantly reducing CA as supported by the results of this study. These clinical techniques can be learned easily by instructors in colleges of pharmacy (7). This study demonstrated that a communication course based on these clinical approaches could be developed to reduce com- : munication apprehension in pharmacy students. All of these results are particularly pleasing in light of the fact that the class sizes were still relatively large (34 students in each section), and as a result optimal individual attention could not be given to each student.

It appears that pharmacy schools may attract a larger proportion of high CA people than the population as a whole. Studies indicate that, in general, 20 percent of the entire population are high CA (12). Perhaps many students perceive that, at this time, pharmacy is a profession where they won't have to communicate very often. Both hospital and community pharmacies certainly present many "attractive" physical barriers for high CA people.

If schools of pharmacy and the profession are serious about ·developing a service-oriented, clinical role, then communication courses must be part of the curriculum. There is a need for emphasis on both improving skills and reducing communication apprehension. Teaching skills simply will not remove the problems of the apprehensive student. The other alternative would be to "screen out" high CA people during the admissions process. This alternative would be highly unacceptable to many people. In any case, it seems unlikely that pharmacy will reach its future goals if both high CA students and pharmacists, are left untreated.

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