The Attitudes of the Health Psychology Students, University of Gezira towards Communication Skills Learning

By Aman El Tayeb El Wasila El Tayeb
Hail university

Abstract: Communication skills learning have a significant impact on patient care and correlate with improved health outcomes and health care quality. This is a descriptive analytic study, aims at studying health psychology students' attitudes towards communication skills learning with relation to some variables. The sample of the study consist of (62) health psychology students. The data were collected by communication skills attitude scale and a structured questionnaire, and analyzed by statistical package for social sciences (SPSS). T.test, percentages, one way ANOVA and LSD were used. The results showed that: The health psychology students had positive attitudes towards communication skills learning. There were significant differences between the students' attitudes towards communication learning according to their CGPA in favor of (3.50 - 4.00). This study concluded that communication skill learning is essential for the health psychology students, so it become necessary to put emphasis on its training.

I. INTRODUCTION

Effective communication is needed for health providers to make an accurate diagnosis, to facilitate compliance with treatment by creating a trusting relationship with chronically ill patients and their families, to cope with breaking bad news and dealing with anger and to establish harmonious relationships with colleagues (Royston 1997), support staff and seniors. Dissatisfaction of patients and the public is due to poor communication more than to any other professional deficiency among health providers (Anon 1993). Communication is a core clinical skill that can be taught and learned (Rider and Keefer 2006) and teaching communication skills is now part of the undergraduate health professions curriculum in the majority of medical schools world wide (Lloyd and Bor 1996). Psychologists need to master excellent communication skills to succeed in their profession. Development of effective communication skills is an important part of Psychologists’ advancement potential. The development of these skills is not only enhances the psychologists’ potential, but will also improve the quality of their work outcome. There is little research identifying health profession students' attitudes towards communication skills learning. Attitudes involve evaluations by which we attach good or bad qualities to a topic or an organization or a person. Attitudes drive behavior. If we can change a person's attitude we may change his or her behavior [Cleland J, et al]. There is evidence that changing behavior by training new ways of acting in professional situations may influence the more fundamental aspects of attitudes without targeting them directly [Anvik1, et al. 2007]. There is need for assessment tools enabling teachers and curriculum planners to monitor changes in specific components of attitudes among students during medical school. The use of such tools may also facilitate comparisons between different health profession schools. Such comparisons are important because differences in attitudes may be to some extent linked to differences in teaching methods and/or curriculum designs, thereby helping health profession educators in finding new ways of improving and refining teaching in health profession schools [Anvik1, et al. 2007]. This study focuses mainly on the attitudes of health psychology students towards communication skills learning.

A. Problem Statement

Development of effective communication skills is an important part of Psychologists’ advancement potential. Psychologists need to master excellent communication skills to succeed in their profession. Listening, interpersonal, written and oral communication skills are requiring by psychologists to facilitate understanding patients’ feelings and the ability to take good history from the patients and their relatives in order to make good management plan. Psychologists are constantly gathering, sorting, analyzing and explaining information to patients, relatives and colleagues. In spite of that, there is little research work on the attitudes of the students of psychology towards communication skills learning. To the knowledge of the researcher there has been no study assessing attitudes
of the health Psychologists towards communication skills learning in the Sudan. This study tries to assess health psychology students' attitudes towards communication skills learning.

B. The study Importance

The importance of this study lies on the following:

1) The students will be aware by their attitudes towards their colleagues and their patients, patients’ relatives, and their relations with them, and they will be able to develop good communication skills in order to do their jobs properly.

2) Curriculum planners and teachers will be aware of the importance of communication skills learning in the curriculum.

3) The whole community will be aware of the importance of communication skills that will promote the citizen mental health.

4) A real addition to the scientific research in Sudan particularly in the health profession education and psychology.

C. The General Objective Of The Study

The main objective of this study is to assess the attitudes of the health psychology students towards communication skills learning.

D. The Specific Objectives Are

1) To identify the students’ attitudes towards communication skills learning.

2) To identify the relationship between students' attitudes towards communication skills and students' demographic characteristics (age, sex, year of the study, previous study in communication, parents’ education and parents’ occupation).

E. The Research Hypothesis

1) The health psychology students had positive attitudes towards communication skill learning.

2) There were significant differences between the students’ attitudes towards communication learning according to their gender and age.

3) There were significant differences between the students’ attitudes towards communication learning according to their GPA and CGPA.

F. Study Design

For this research, the researcher used the analytic descriptive study.

G. Study Population

The population of this study was the students of the departments of Health Psychology, Faculty of Applied Medical Sciences, University of Gezira. They were (148) students; males and females from different areas, different socioeconomic status and different cultures.

H. The Study Sample

The study sample of this research was the whole students of the first and the third year of the department of Health Psychology, Faculty of Applied Medical Sciences, University of Gezira. They were (62) students; males and females, from different areas, different socioeconomic strata and different cultures.

I. The Study Tools

The tools of this study were as following:

1) Communication Skills Attitudes Scale (CSAS), Appendix no.(1)

2) A structured questionnaire. Appendix no.(1)

J. Statistical Analysis

The collected data was analyzed by the statistical package for social sciences (SPSS) using the following statistics tests:

1) percentages, means and standard deviations.

2) T. test. 3/ Anova. 4/ LSD.
II. THE LITERATURE REVIEW

Attitudes refer to the way you express your likes and dislikes towards particular people, things, and occurrences. Attitudes can be positive, negative, or neutral. It is also common to have more than one of these feelings towards something – when that happens, for example, in the case of a person who both likes and dislikes something at once; we say that person’s attitude is “ambivalent”. Attitudes are typically derived from judgments, which everyone makes. In psychology, it is believed that attitudes are rooted in an ABC approach: that is, affect, behavioral change, and cognition. When we talk about an affective response to something, this is a physiological response to a particular stimulus that effectively expresses that person’s preference. The behavioral component is that individual’s verbal indication of what they intend to do. Finally, there is the cognitive response. This describes the individual’s cognitive evaluation of the entity, which is then used in the formation of an attitude. It is believed that the attitude formation process as described above tends to happen as the result of observational learning in a person’s environment.

A. Definitions of Attitudes

The concept of attitude can be defined in different ways. Fishbein and Ajzen (1975) defined an attitude as a learned disposition to respond in a consistently favorable or unfavorable manner with respect to a given object. Thurstone as cited in Kan and Akbas (2006) defined an attitude as the degree of sensation to an object or an individual while Güzel (2004) defined an attitude as the general evaluation of people about themselves, others, other objects, events or problems. Studies have shown that students with positive attitudes towards their school work are likely to show commitment, interest, affection and a desire to learn more.

B. Factors Influencing attitudeEs of Students Towards Learning

Studies have shown that attitudes of students towards learning are affected by factors such as method of teaching, performance, gender, motivation, relevance of subject to field of study, background and environmental factors (Banya, 2005).

C. Assessment of Attitudes

From the previous definitions of attitudes it appears that attitudes are not quantifiable. According to Kobella (1989) the most prominent quality of attitude is evaluating directionality- our favorable or unfavorable feeling towards something. Attitudes of students can be measured formally or informally. Formal assessments include self report surveys in the form of questionnaires which may consist of open-ended questions, multiple choice questions, or rating scales that allow students to indicate how strongly they agree or disagree with specific statements. Informal survey could be in the form of classroom observation where a teacher may ask how a student feels with regard to her teaching style and the student gives a verbal response to the question. In most cases self administered assessment questionnaires have been used as an effective way of assessing students’ attitudes.

D. Changing Attitude

It is possible to change someone’s attitude via persuasion. The work of psychologist Carl Hovland in the mid 20th century helped psychologists gain a further grasp on what persuasion entails. Hovland established that attitude change had to be understood as a response to communication. Experimental research was conducted in the following areas as a means of understanding the process of attitude change: target characteristics, source characteristics, message characteristics, and cognitive routes.

III. COMMUNICATION

Communication is the transmission of meaning from one person to another or to many people, whether verbally or non-verbally. Communication from one person to another is commonly depicted as a simple triangle consisting of the context, the sender, the message, and the receiver (Barrett, 2006: 386). Communication skills have great importance in the work area just as they have in all areas of life. For most of the professions, communication skills such as being able to express one or to understand the others correctly are required for success and satisfaction at least in elementary level (unalan and Tengilimoglu, 2009). Even though an organization performs its tasks more efficient than expected, one should know that this success will not continue so long if it lacks the same efficacy in communication (Totar, 2000). Communication is a complex process, but a communication system is often categorized into six main components. The six components and their public speaking analogs are: Transmitter Speaker Channels Senses: speech, hearing, seeing, etc. Message Speaker’s topic Receiver Audience Noise Internal and external factors that affect message reception by audience: e.g., daydreaming, traffic noise, etc. feedback audience reaction. Success of communication depends on several factors. Transmission of message by the process of encoding and decoding the message, which may result in short-term perception, is not adequate for the success of communication. Communication should be in such a way that will give
opportunity for the respondent or receiver to take decision with regard to the message he perceived (master, 2008). The concept of interpersonal communication skills was firstly introduced in 1950s (Berko et al. 1998). Interpersonal communication skills have been defined as ability to work well with people, and involve your acceptance of others, without prejudice. This does not always mean that you like the person, but you are able to overcome your dislike in order to achieve your tasks (Smith, 2009). Interpersonal communication skills are ability to respond to staff's needs positively, fostering a non-discriminatory work environment where staff can develop to their full personal potentials, and delegating authority (Avkiran, 2000). Interpersonal communication competence consists of a set of skills, knowledge about communication, and self-evaluation. Competent interpersonal communication skills include self disclosure, owned feelings and thoughts, and descriptiveness and support. (Robinson, 2006). Robbins and Hunsaker (2003) reviewed a large number of studies and synthesized the interpersonal skills that surfaced on most lists. Most of these skills belong to three categories – leadership, the process of communication and motivation. Interpersonal skills under leadership relate to leadership style, handling conflicts, running meetings, team building and promoting change. The process of communication includes sending messages, listening and providing feedback. Similarly, motivating is broken down into goal setting, clarifying expectations, persuading and empowering. Other interpersonal skills include negotiating (Bambacas and Patrickson, 2008).

Communication has proved to be considerably more effective in collecting the data required for diagnostic purposes than all other means of collecting data, such as physical examination and laboratory information (Smith et al. 1998). The interview, according to Smith and his colleagues (1998) “…establishes more diagnoses than physical examination and laboratory data combined”. It is the most important mean of obtaining information from the patient to develop the data required for therapeutic purposes and is “…the primary means for transmitting information from physician to patient” (Smith et al. 1998). Thus, given the effectiveness of communication in enhancing doctor-patient relationship on the one hand and the significance of exposing residents to communication skills training programs on the other, it seems logical to assume that physicians who have undergone more training in communication skills during their medical education to be considerably more successful in achieving patient satisfaction than those who have been deprived of such training. This implies that medical curricula with more instructions on communication skills are more successful in achieving patient satisfaction than those with little or no such instructions (Smith et al. 1998). It become obviously that learning communication skill is a must for the psychologist more than the doctors, since their tools of investigations are mainly based on the personal interviews (Smith et al. 1998).

A. Definitions of Communication

Communication is the transmission of information to elicit a response. Communication refer to imparting, conveying, or exchange of ideas, knowledge, etc. (whether by speech, writing, or signs). It is sharing information, an idea, or an attitude (Dan Nimo, 1978). Communication is the process of social interaction people use to construct meanings that constitute their images of the world (on which they act) and to exchange those images via symbols. (Ibid, 1992). Communication is occurring “whenever the behavior of one individual (the sender) influences the behavior of another (the receiver), and behavior can be defined as communicative to the extent that it reduces uncertainty in the behavior of another” (Buck, 1984). Some definitions of communication would exclude influences transmitted via spontaneous and nonsymbolic behavior. Communication is the process by which information and feelings are shared by people through an exchange of verbal and non-verbal messages. In the context of medical education, its primary function is to establish understanding between patient and doctor. In an atmosphere of effective communication, patients improve faster, cope better with post-operative pain, require less psychotropic drugs, and experience numerous other health benefits (Kurtz SM, 1989).)

B. Communication Skills

During the last century the attention paid in higher education to the development of professional skills has progressively increased. In the first half of the last century the term ‘skill’ mainly referred to motor or technical actions, for instance driving a car or operating a machine (Murphy, Murphy & Newcomb, 1937). However, during the second half of the last century this term also came into vogue for describing social interactions between humans (Argyle, 1981). Social skills can be defined as “useful distinctive behavior components for social interaction, which are in the user’s repertoire, a repertoire from which the user can choose” (Lang & Van der Molen, 2004). These skills cover a broad scale of interpersonal behavior, for instance criticizing, speaking in public or guiding a group discussion. Special examples of social skills are communication skills. These skills are intended to deal adequately with professional conversations, for instance a doctor interviewing a patient or a psychologist counseling a client. Many psychologists have to be able to perform an interview with a client or a patient. Therefore, many psychology curricula intend to train their students in communication skills (Kurtz SM, 1989).
Psychologists have to perform the following tasks: provide assessments and psychological interventions to clients referred for medical conditions, substance misuse or mental illness, conduct therapeutic interviews and provide counseling, give psychological tests and assess the results to identify the source of problems and determine treatment, research psychological aspects of topics such as study motivation, teaching skills, occupational behaviors, working conditions and organizational structures, provide follow-up services to groups and individuals for support and evaluation purposes, evaluate the results of programs aimed at improving personal and organizational effectiveness, construct tests to assess and predict mental and emotional states as well as performance, and conduct academic research. All of these need communication skills in order to be done (Kurtz SM, 1989).

Communication Skills are the proficiency in the interchange of information. These are essential skills for clinical practitioners because of the large and varied number of people they must communicate with every day. The idea that doctors automatically learn communication through experience or that doctors are inherently either good or bad communicators is being largely abandoned. It is now widely believed that such skills can be taught to both students and doctors by a variety of professionals including doctors and specialists in communication skills as an important part of undergraduate as well as postgraduate and continuing medical education (Kurtz SM, 1989).

Good communication skills are integral to medical and other healthcare practice. Communication is important not only to professional-patient interaction but also within the healthcare team. The benefits of effective communication include good working relationships and increased patient satisfaction. Effective communication may increase patient understanding of treatment, improve compliance and, in some cases, lead to improve health. It can also make the professional-patient relationship a more equitable one. Undoubtedly however, there are barriers to effective communication ranging from personal attitudes to the limitations placed on doctors by the organizational structures in which they work. In order to deliver effective healthcare, doctors are expected to communicate competently both orally and in writing with a range of professionals, managers, patients, families and careers. Simply recognizing the need for good communication skills is not enough; healthcare professionals must actively strive to achieve good communication skills by evaluating their own abilities. Education providers need to ensure that appropriate and effective training opportunities are available to doctors to develop and refine such skills in order to facilitate interaction with patients and others (Kurtz SM, 1989). In some cases an explanation of the patient’s illness will need to be paced over several sessions in order to suit the patient or family’s emotional or cognitive ability to attend to, comprehend or incorporate the information. Patients themselves may have communication difficulties such as those with sensory impairments or speech problems, those with language barriers or learning difficulties, and patients from different ethnic groups. Communication with patients’ relatives and careers is also commonly required to provide appropriate care; doctors must possess the appropriate skills to communicate sensitively with people, irrespective of cultural, social, religious or regional differences (Kurtz SM, 1989).

In patient-doctor interaction the main responsibility for cultural sensitivity and understanding rests with the doctor. It is, therefore, imperative that medical education includes intercultural communication training (Kurtz SM, 1989). In the Sudan, cultural, social and religious diversity is found in the population including the medical professions.

C. Principles of Effective Communication
1) Ensures interaction rather than direct transmission
2) Reduces unnecessary uncertainty
3) Requires planning and thinking in terms of outcomes
4) Demonstrates dynamism – what is appropriate for one situation is inappropriate for another. Achieving this dynamism requires flexibility, responsiveness and involvement
5) follows the helical model (what one person says influences what the other says in a spiral fashion so that communication gradually evolves through interaction) (Kurtz SM, 1989).

D. Psychologists’ Communication Competencies
The communication set of competencies dealt with by psychologists with their individual or organizational or community clients, other psychologists, other professionals and the public. It recognizes the importance of clearly conveying psychological ideas derived from discipline, knowledge, research and practice, and includes the response of psychologists to feed back and information from others. The psychologist will be able to demonstrate: The knowledge of communication skills and knowledge of techniques and processes for dissemination of findings. Also the psychologist will be able to demonstrate: The communication of information about relevant psychological services to potential clients, a high standard of interviewing (establishes and maintains rapport, gathers relevant information, etc.), effective and appropriate communication, including communication of outcomes (New Zealand, 2011).
Psychologists work collaboratively and respectfully with a wide range of people. They listen actively to understand others' perspectives and (as appropriate and within ethical bounds) adapt their approaches to practice and communicate in response to the audience and the circumstances. Psychologists may at times take on advocacy roles. (New Zealand, 2011)

E. Assessment of Communication Skills
A widely used model for the assessment of skills is the framework for clinical competence developed by Miller (1990). Miller’s model distinguishes four hierarchical layers of competence: Knows (knowledge), Knows How (Competence), Shows How (Performance) and Does (action). The first layer, knowledge, is required to carry out professional tasks effectively. The second layer, competence, is required to apply knowledge in concrete situations. Performance, the third layer, is the ability to use this knowledge to perform concrete actions. Finally, action refers to what a professional does during day-to-day action (Miller, 1990).

F. Previous Studies
1) C. Rees and C. Sheard, 2003 Nottingham UK
   a) The title of the Study: Evaluating first-year medical students' attitudes to learning communication skills before and after a communication skills course.
   b) Aim of the Study: to explores medical students' attitudes towards communication skills learning before (T1) and at the end (T2) of their first-year communication skills course.
   c) Methods: A longitudinal study explores 216 medical students who completed the Communication Skills Attitude Scale and a personal details questionnaire satisfactorily at T1 and T2. Univariate statistics established whether attitudes differed between T1 and T2 for the whole sample and for the sample split by demographic and education-related characteristics.
   d) Results: Students rated their communication skills slightly but significantly lower at the end of their communication skills course than before the start of the course. Positive attitudes towards communication skills learning became significantly lower by the end of the course compared with the start. Repeated measures ANOVAs indicated that significant two-way interactions existed between attitudes at T1 and T2 and the demographic characteristics: gender, language and ethnicity.
2) Khashab S S Alexandria, 2006.
   a) Title of the Study: Attitudes of Alexandria Medical Students towards Communication Skills Learning
   b) The Study Aims: The study aims to identify the attitudes of medical students towards communication skills learning and to consider their relationships with students, demographic and education-related characteristics.
   c) Methods: ( 470) medical students from Alexandria Medical School (4th and 5th year) completed the 26-item Communication Skills Attitude Scale and a personal details questionnaire satisfactorily. Univariate and multivariate analysis were used to find out the relationship between students' attitude and, some demographic and education-related characteristics.
   d) Results: The results showed that, the attitude of medical students towards communication skills learning was significantly more positive among 5th year batch than their counterparts. In addition, students born to a father or a mother who was a doctor had a significantly lower score on the negative subscale compared to students born to parents in other occupations. Being a student in the 5th year independently predict higher scores on the positive attitude subscale. As revealed by multivariate analysis, being a student in the 5th year and having a father who is a doctor independently predict lower scores on the negative attitude subscale.
3) Tor Anvik, Tore Gude, Hilde Grimstad, Anders Baerheim, Ole B Fasmer,Per Hjortdahl, Are Holen, Terje Risberg8 and Per Vagham, Norway, 2006.
   a) The Title of The Study: Assessing medical students’ attitudes towards learning communication skills – which components of attitudes do we measure?
   b) The Objectives of The Study: to explore the attitudes of Norwegian medical students towards learning communication skills, and to compare the findings with reports from other countries.
   c) Methods: The CSAS questionnaire was mailed simultaneously to all students (n = 3055) of the four medical schools in Norway in the spring of 2003. Response from 1833 students (60.0%) were analyzed by use of SPSS.
   d) Results: A Principal component analysis yielded findings that differ in many respects from those of earlier papers. The results found the CSAS to measure three factors. The first factor describes students' feelings about the way communication skills are taught, whereas the second factor describes more fundamental attitudes and values connected to the importance of having communication skills for doctors. The third factor explores whether students feel that good communication skills may help them respecting patients and colleagues. The findings indicate that the CSAS measures broader aspects of attitudes towards
learning communication skills than the formerly described two-factor model with PAS and NAS. This may turn out to be helpful for monitoring the effect of different teaching strategies on students’ attitudes during medical school.

4) Ravip. Shankar, Arun K. Dubey, Pranaya Mishra, Vibhavri Y. Deshpande, T. S. Chandrasekhar & P. G. Shivananda, 2006, Western Nepal
   a) The study’s title: Student Attitudes towards Communication Skills Training in a Medical College in Manipal College of Medical Sciences, Pokhara, Nepal
   b) Objectives: The study was carried out to determine the positive and negative attitudes of student respondents using the previously validated communication skills attitude scale (CSAS).
   c) Methods: The study was carried out among third- and fourth-semester students at the Manipal College of Medical Sciences, Pokhara, Nepal. These students are in the preclinical part of their course and learn the basic science subjects through an integrated, system-based curriculum. Gender, age, nationality of the respondents, occupation of parents, medium of instruction at school, attitude towards communication skills training during the clinical years, and self-rating of communication abilities were recorded. Association of the positive and negative attitudes with these variables was determined using appropriate statistical tests.
   d) Results: A total of 123 students participated in the study; 74 (60.2%) were male, and 104 (84.5%) had studied in English-medium schools. The median positive attitude score was 51 (inter-quartile range 7). Nationality and attitude towards communication skills training during the clinical years showed a significant association. The mean negative attitude scale score was 31.18 (SD¼44.96). A significant association was noted with attitude towards communication skills training during the clinical years. Both scales range from 13–65, with higher scores indicating stronger attitudes.

5) Tore Gude, Per Vaglum, Tor Anvik, Anders Baerheim, Hilde Eide, Ole B. Fasmer, Peter Graugaard, Hilde Grimstad, Per Hjortdahl, Are Holen, Tone Nordoy, Helge Skirbekk, and Arnstein Finset, 2007
   a) The Title of The Study: Observed Communication Skills: How Do They Relate to the Consultation Content? A nation-wide study of graduate medical students seeing a standardized patient for a first-time consultation in a general practice setting.
   b) The Aim of The Study: to investigate the relationship between background variables, communication skills, and the biopsychosocial content of a medical consultation in a general practice setting with a standardized patient.
   c) Methods: Final-year medical school students (N = 111) carried out a consultation with an actor playing the role of a patient with a specific somatic complaint, psychosocial stressors, and concerns about cancer. Based on videotapes, communication skills and consultation content were scored separately.
   d) Results: The mean level of overall communication skills had a significant impact upon the counts of psychosocial issues, the patient’s concerns about cancer, and the information and planning parts of the consultation content being addressed. Gender and age had no influence upon the relationship between communication skills and consultation content. Communication skills seem to be important for final-year students’ competence in addressing sensitive psychosocial issues and patients’ concerns as well as informing and planning with patients being representative for a fairly complex case in general practice.

6) Harlak H, Gemalmaz A, Gurel FS, Dereboy C, Ertekin K, Turkey, 2008
   a) The title of the study: Communication Skills Training: Effects on Attitudes toward Communication Skills and Empathic Tendency
   b) Objective: This study explored and compared medical students’ attitudes toward communication skills and empathic tendency before and after communication skills training.
   c) Methods: (59) first-year students voluntarily completed a questionnaire consisting of the Communication Skills Attitudes Scale and the Empathic Tendency Scale before and after training. K-means cluster analysis and Student’s t-test were used for statistical analysis.
   d) Results: In the pre-test, 49% of the students had positive attitudes toward communication skills learning and 59% had higher empathic tendencies. In post-test, the mean score in the positive attitude group decreased significantly, whereas there was no change in the negative attitude group. In the high empathy group, empathy scores did not change significantly after training; however, in the low empathy group, empathic tendency significantly increased. The findings suggest that the curriculum is in need of further examination and modification. Future studies with larger samples are needed to investigate the effects of communication skills training on students’ attitudes.

7) Fathi M. Ilmeideh, Aieman Ahmad Al-Omari, Kholoud A. Al-Dababneh, Jordan, 2010
   1) The Title of the Study: Attitudes toward Communication Skills among Students’-Teachers’ in Jordanian Public Universities.
   2) The aims of the Study: to determine the positive and negative attitudes among students.
3) **Methods:** (289) students of class teachers and childhood teachers' disciplines using the communication skills attitude scale (CSAS) in Jordanian public universities. GPA, year level of students were recorded.

4) **Results of study** revealed that the mean of positive attitude score was 4.03. The mean of negative attitude scale score was 3.63. There were no significant differences between class teachers and childhood teachers students in their positive and negative attitudes toward communication skills. Students with grade point averages 2 and more have positive attitudes toward communication skills than students with grade point average less than 2. Senior students have high positive and less negative attitudes toward communication skills than sophomores and junior students.

**E. This Study In Relation To Previous Studies**

In spite of the wealth of literature regarding communication curricula within the undergraduate courses, yet, few studies have explored medical students' attitude within a communication skills learning and teaching context. Given that teaching programs within the social sciences often encounter varying degrees of student resistance, studies are needed to explore psychology students' attitudes toward communication skills learning. Hajek et al. (2000) found that medical students' main concerns involved communicating with certain category of patients namely those who were in pain and who showed strong negative emotions. Batenburg & Saml (1997) found that medical students' attitudes did not change substantially as a result of the communication skills teaching intervention, suggesting that students' attitudes towards patients, illness and care were very stable and considerable effort is needed to initiate a change in attitudes. Moreover, in a recent qualitative study, participants suggested that medical students' attitudes towards communication skills learning were related to other extracurricular factors such as their previous educational experience, their age, and their communicative abilities. Other studies suggested different demographic characteristics such as gender, language and ethnicity as factors influencing the attitudes of students in learning communication. Hence, it was important to explore the possible characteristics of students that might be behind their attitudes. Study of Khashab S. S. aims to identify the attitudes of medical students of Alexandria Medical School enrolled in the 4th and 5th year during the academic year 2004/2005 using an attitude scale developed by Rees et al. and to consider their relationships with medical students, demographic and education-related characteristics. To the researcher's knowledge no research is available concerning the attitudes of health psychology students towards communication skills in the world and particularly in Sudan; this study is the first one. In this study the researcher had get the benefits from the previous studies by using the (CSAS) which was developed by Rees 2002, beside the study sample, and the statistical analysis.

**IV. METHODOLOGY**

The Communication Skills Attitudes Scale (CSAS) created by Rees, Sheard and Davies and published in 2002 has been a widely used instrument for measuring medical students' attitudes towards learning communication skills. The CSAS contains 26 statements concerning attitudes towards learning communication skills. Thirteen statements are positively worded (e.g.: "In order to be a good doctor I must have good communication skills" – item 1) and thirteen negatively worded (e.g.: "I don't need good communication skills to be a doctor" – item 19). Each statement is followed by five boxes in a Likert-like consecutive order, named "Strongly disagree", "Disagree", "Neutral", "Agree" and "Strongly agree" and is numbered from 1 to 5 respectively. The informant is asked to check one box only. Negative and positive statements are presented in a haphazard order. Each item was scored from 1 to 5 according to the box that had been checked in the questionnaires.

The CSAS was translated from English to Arabic independently by a physician, a pharmacist, a community physician and an English teacher. Together they agreed on the Arabic version of the scale. Then the Arabic version translated back to the English. For the back translation, a similar group (with a nurse instead of pharmacist) applied the same procedure. After back translation, the researcher compared the original English version and back translated items, then created a final Arabic version of the scale. Items were left in the same order as in the original, except item no.26, it became (Communication skills learning should be left to medical students, not psychology students) instead of (Communication skills learning should be left to psychology students, not medical students) .The same 5-point Likert response structure was used. The Arabic version of the CSAS was then pilot tested with a group of 31 students to collect feedback about instrument content and usage. The feedback from students emphasized that the instrument has both construct and content validity. Then the Arabic version of the CSAS was retested with the same sample of (31) students that of the pilot study (the Gezira University, health psychology students). Reliability coefficients for the CSAS (test- retest) established for the PAS and NAS scales as follows: PAS (.83), and NAS (.82), Pearson correlation is (.88) with p value (.003). Also the Pearson coefficient Correlation is (.78), and Spearman – Brown is (.87), and Alpha Cronbach is (.79). Though the scale has construct validity and an internal consistency. Then the scale was standardized by a psychologist and two communication
specialists. Based on the translation process and the reliability estimates, the Arabic-translated version of the CSAS seemed to be valid and reliable measure for use with a Sudanese population. Then the Arabic version of the CSAS was retested with a sample of (31) students different than that of the pilot study but withdrawn from the same population (the Gezira University, health psychology students). The questionnaire also queried students’ demographics, including age, sex, year of study, academic achievement, and previous studies in communication, parents’ education and parents’ occupation.

A. Data Collection
With the permission of the instructor, the questionnaire was administered to students, during formal lectures, during the third semester of academic year, in the pilot study the questionnaire was administered to students before teaching them the communication course, while in the retest study the questionnaire was administered to students after they were given the communication course. Also the questionnaire was administered to students, during formal lectures, during the seventh semester of academic year; they were already taught the communication course and taught another course of communication in health, besides they practice the clinical training. All students received written and verbal instructions that specified the purpose of the study and explained the procedures to be followed in responding to the items.

B. Data Analysis
Data were analyzed using SPSS. Descriptive statistics were used to identify the personal characteristics of the total sample students. The association of the dependent variables (positive (PAS) and negative (NAS) scores) with the independent variables (personal characteristics) was determined. Student’s t-test, means and standard deviation and ANOVA were used with p<0.05.

C. The Study Population
The population of this study was (148) students of the department of Health Psychology, Faculty of Applied Medical Sciences, University of Gezira; males and females from different areas, different socioeconomic status and different cultures.

D. The Study Sample
The sample of this study was the all students from semesters (3, 7) from the department of Health Psychology, Faculty of Applied Medical Sciences, University of Gezira. They were (62) students; (9) males and (53) females, their age ranged from 18 to 25 years, See tables no. (1,2,3, and 4 ).

| Table no. (1) The distribution of the sample according to the gender |
|---------------------------------|---------------|----------------|
| Sex               | Frequency | Percent |
|-----------------|-----------|---------|
| Male            | 9         | 14.5    |
| Female          | 53        | 85.5    |
| Total           | 62        | 100.0   |

| Table no. (2) The distribution of the sample according to the Age group |
|---------------------------------|---------------|----------------|
| Age group      | Frequency | Percent |
|----------------|-----------|---------|
| 18-21 years    | 44        | 71.0    |
| 22 - 25 years  | 18        | 29.0    |
| Total          | 62        | 100.0   |

| Table no. (3) The distribution of the sample according to the GPA |
|---------------------------------|---------------|----------------|
| GPA               | Frequency | Percent |
|------------------|-----------|---------|
| 2.00 - 2.50      | 6         | 9.7     |
| 2.50 - 3.00      | 14        | 22.6    |
| 3.00 - 3.50      | 30        | 48.4    |
| 3.50 - 4.00      | 12        | 19.4    |
| Total            | 62        | 100.0   |
Table no. (4) The distribution of the sample according to the CGPA

| CGPA    | Frequency | Percent |
|---------|-----------|---------|
| 2.00 - 2.50 | 3         | 4.8     |
| 2.50 - 3.00 | 17        | 27.4    |
| 3.00 - 3.50 | 30        | 48.4    |
| 3.50 - 4.00 | 12        | 19.4    |
| **Total** | **62**    | **100.0** |

V. RESULTS AND DISCUSSION

A. Results Related To The First Hypothesis

(Health psychology students have positive attitudes towards communication skill learning).

In order to examine this hypothesis, the researcher examined the attitudes of students toward communication skills learning using frequencies, percentages, means and standard Deviations, table no. (5) These results showed that the percentage of negative attitudes was (54.8%) with a mean of (62.5), while the percentage of positive attitudes was (45.2%) with a mean of (67.4). This result showed that the positive attitudes of the total sample were seemed to be high. This means that the health psychology students have positive attitudes towards communication skill learning.

Table no. (5) Shows Frequency, Percent, Mean and Sd. Deviation of the sample’s attitudes towards communication skills learning.

| Attitudes | Frequency | Percent | Mean    | Sd. Deviation |
|-----------|-----------|---------|---------|---------------|
| Negative  | 34        | 54.8    | 62.5000 | 7.24193       |
| Positive  | 28        | 45.2    | 67.4323 | 5.22001       |
| Total     | 62        | 100.0   |         |               |

Rees and his colleagues, (2001) in a qualitative study of medical students, found that students held both positive and negative attitudes towards different aspects of communication skills learning. The reviewed literature suggests that medical student attitudes toward communication skills training likely influences perceptions of the importance of these skills, and they may eventually influence the learning and adoption of communication skills in the clinical setting. In addition, attitudes towards communication skills training are also likely to be related to medical student assessments of their ability to communicate effectively with patients. However, much of the previous work in this area has inferred these relationships among variables rather than specifically testing them (Wright, KB et al 2006). Ravip. Shankar, et al, 2006 stated that positive attitudes were the attitude towards communication skills training during the clinical years. Studies have shown that the attitudes of students towards learning were affected by factors such as the relevance of subject to field of study (Banya, 2005). For the health psychologist; communication skills such as being able to express one or to understand the others correctly are required for success and satisfaction at least in elementary level (Unalan and Tengilimoglu, 2009). Many psychologists have to be able to perform an interview with a client or a patient. Therefore, they have to be trained in communication skills (Kurtz SM, 1989).

According to the researcher, this result is due to that the students of health psychology were prepared to be psychologist whose core competence will be the good communication with patients, their relatives and with colleagues.

B. Results Related To The Second Hypothesis

1) There is a significant difference in positive attitudes of the students towards communication skills learning according to their gender:

In order to examine this hypothesis; means, Standard. Deviations and T. test, Degree of freedom, and significant value of the sample’s attitudes were calculated, see tables (17). The results showed that the males mean was (65.3333), and the females mean was (64.8679) See table no. (6).

Table no. (6) Shows the Means and Sd. Deviations of the sample’s gender

| Gender | N  | Mean  | Std. Deviation |
|--------|----|-------|----------------|
| Male   | 9  | 65.3333 | 6.78233        |
| Female | 53 | 64.8679 | 5.29890        |
The results showed that the T. test is (234), and Significant is (.816). This means that there are no significance differences between the males and females attitudes towards communication learning. See table no. (7).

Table no. (7) Shows T. test, Df, and sig. Of the sample’s attitudes due to their gender.

|        | t. test | Degree of freedom | Significant |
|--------|---------|-------------------|-------------|
|        | .234    |                   | .816        |

There is some evidence that attitudes toward communication skills training may also be associated with demographic variables, such as gender. While few studies have explored the relationship between gender and perceptions of medical communication skills, some small gender differences might be expected. A recent meta-analysis indicated that female physicians are more likely to perform more patient-centered communication behaviors such as collaborative communication, empathic communication and giving psychosocial information. Other researchers have found that male medical students were slower at learning communication skills than females. Other studies found that; women’s attitudes were more positive and their empathic tendencies were higher than men’s, which is consistent with findings from other studies (Rees & Sheard, 2002; Hojat et al., 2002). Kevin B. et al, 2006 found that female medical students have more positive attitudes towards communication skills training than male medical students. Ismaeil Fazel et al, (2011) found that there were statistically significant differences between male and female students. Compared to male students, female students tended to demonstrate higher positive attitudes and lower negative attitudes towards learning Communication skills (B Molinuevo, R Torrubia, 2011). Gender was found not to have a significant association with the positive attitude subscale mean score (Khashab S S, 2006). Other studies found that there were no differences in the attitudes of males and female respondents (Ravip Shankar, et al, 2006).

In this study the results showed that there were no significance differences between the males and females attitudes towards communication skills learning, and this may be due to that the number of males (9) was less than the number of females (53).

2) The third Hypothesis has been that; There is a Significant Difference In Positive Attitudes of the Students Towards Communication Skills Learning According to their Age: The results showed that the mean of (44) students in the age group (18-21) was (65.7045), and the mean of (18) students in the age group (22-25) was (63.0556) see table no. (8), while the T. test was (1.758) and the Significant value was (.084), see table no. (9) This means that there were no significant differences between the students’ age groups.

Table no. (8) Shows the Means and Sd. Deviations of the sample’s age.

| Age Group  | N  | Mean   | Std. Deviation |
|------------|----|--------|----------------|
| 18-21 years| 44 | 65.7045| 5.29405        |
| 22-25 years| 18 | 63.0556| 5.60957        |

Table no. (9) Shows T. test, Df, and sig. Of the sample’s attitudes according to their age.

|        | t. test | Degree of freedom | Significant |
|--------|---------|-------------------|-------------|
|        | 1.758   |                   | .084        |

No significant relationship was observed between age and the PAS scores. (Ravip, Shankar, et al 2006). Another study found that there was no significant relationship was observed between age and students’ attitudes (Tore Gude, et al 2007). Another study suggested that older, mature students have more positive attitudes towards communication skills training (Rees & Garrud, 2001). Fathi M. et al 2010 found that senior students have high positive and less negative attitudes toward communication skills than sophomore and junior students. These results may be due to that there are no big differences between the sample’s ages; they are still from the same age category.

3) The Fourth Hypothesis Has Been That; There Is A Significant Difference In Positive Attitudes Of The Students Towards Communication Skills Learning According To Their GPA: The results showed that the value of (F) was (.496) and the significant was (.686). This means that there were no significant differences in the students’ attitudes according to their GPA see table no. (10).
Table no. (10) Shows One-way ANOVA Of the sample’s attitudes according to their GPA.

| Variance     | Sum of Squares | Degree of freedom | Mean Square | F- Value | Significant |
|--------------|----------------|-------------------|-------------|----------|-------------|
| Between Groups | 45,811         | 3                 | 15,270      | .496     | .686        |
| Within Groups      | 1783.931       | 58                | 30.757      |          |             |
| Total              | 1829.742       | 61                |             |          |             |

Students with grade point averages 2 and more have positive attitudes toward communication skills than students with grade point average less than 2 (Fathi M. et al 2010).

The results of this study found that there were no significant differences in the students’ attitudes according to their GPA, according to the researcher this result may be due to the fact that the whole students were interested in their study and they studied hard in this semester, or may be due to the relevance of communication skills learning for the health psychology students, therefore there were no significant differences between them.

4) The fifth hypothesis has been that; there is a significant difference in positive attitudes of the students towards communication skills learning according to their CGPA: The results showed that the F-value was (3.368) and the significant value was (.024). This means that there were significant differences in the students’ attitudes according to their CGPA, see table no.(11). Multiple comparisons by least significant differences (LSD) according to CGPA found that the mean difference is significant at the 0.05 level in favor of (3.50 - 4.00) at (0.003) Significant, see table no.(12).

Table no. (11) Shows One-way ANOVA Of the sample’s attitudes according to their CGPA.

| Variance     | Sum of Squares | Degree of freedom | Mean Square | F- Value | Significant |
|--------------|----------------|-------------------|-------------|----------|-------------|
| Between Groups | 271.483       | 3                 | 90.494      | 3.368    | .024        |
| Within Groups      | 1558.259      | 58                | 26.867      |          |             |
| Total              | 1829.742      | 61                |             |          |             |

Table no. (12) Shows Multiple Comparisons by least significant differences (LSD) according to CGPA

| Variables | Mean Difference | Significant |
|-----------|-----------------|-------------|
| 3.50 - 4.00 | 6.09804*      | 0.003       |
| 2.50 - 3    | 6.09804*       |             |

* The mean difference is significant at the 0.05 level. In favor of (3.50 - 4.00).

There are many studies in the education systems that have associated poor performance of students with their negative attitudes (Maria Gadifele Mogane, 2010). Students with grade point averages 2 and more have positive attitudes toward communication skills than students with grade point average less than 2 (Fathi M. et al 2010).

The results of this study found that there were significant differences in the students’ attitudes towards communication skills learning according to their CGPA. This result may be due to the fact that the students were interested in their study and studied hard in the previous semesters therefore they were challenging each other. And those who had high CGPA also had positive attitudes towards communication skills learning because they had positive attitudes towards the study of psychology itself. Learning communication skills should go hand in hand with the practice in clinical settings as this will add more tangible value to its learning, beside the students were aware of their incompetence in communication and their need to improve it.
VI. THE MAIN RESULTS

A. The health psychology students had positive attitudes towards communication skill learning.

B. There were no significance differences between the students’ attitudes towards communication learning according to their gender and their age.

C. There were no significant differences between the students’ attitudes towards communication learning according to their GPA while there were significant differences according to their CGPA in favor of (3.50 - 4.00).

VIIL. RECOMMENDATIONS AND SUGGESTIONS

A. More attention and emphases must be given to the training of communication skills from the first semester of the study of the health psychology students.

B. More studies in the attitudes of students towards communication skills learning comparing different health professions students must be done using communication skills scale.

C. Adding extra curriculum studies on communication skills training.

D. There is a need for assessment tools enabling teachers and curriculum planners to monitor changes in specific components of attitudes among students during health professions school.

REFERENCES

[1] Meryn S: Improving doctor-patient communication. Not an option, but a necessity. BMJ 1998, 316:1922. PubMed

[2] Jones R, Higgs R, de AC, Prideaux D: Changing face of medical curricula. Lancet 2001, 357:699-703. PubMed.

[3] Kaufman DM, Laidlaw TA, Langille D, Sargeant J, MacLeod H: Differences in medical students' attitudes and self-efficacy regarding patient-doctor communication. Acad Med 2001, 76:188. PubMed.

[4] De Valck C, Bensing J, Bruynooghe R, Batenburg V: Cure-oriented versus care-oriented attitudes in medicine. Patient Education and Counseling 2001, 45:119-126.

[5] Rees C, Sheard C, Davies S: The development of a scale to measure medical students' attitudes towards communication skills learning: the Communication Skills Attitude Scale (CSAS). Med Educ 2002, 36:141-147. PubMed

[6] Rees C, Sheard C: The relationship between medical students' attitudes towards communication skills learning and their demographic and education-related characteristics. Med Educ 2002, 36:1017-1027. PubMed

[7] Rees C, Sheard C: Evaluating first-year medical students' attitudes to learning communication skills before and after a communication skills course. Med Teach 2003, 25:302-307. PubMed

[8] Cleland J, Foster K, Moffat M: Undergraduate students' attitudes to communication skills learning differ depending on year of study and gender. Anon. 1993. Recommendation of World Summit on Medical Education: Edinburgh. 8th –12th August. 142-149.

[9] Lloyd, M, Bor, R. 1996. Communication Skills for Medicine. New York, USA: Churchill Livingston.

[10] Nobile, C., Drotar, D. 2003. Research on the quality of parent provider communication in paediatric care: implications and recommendations. J Dev Behav Pediatr. 24: 279-290.

[11] Harlak H, Gemalmaz A, Gurel FS, Dereboy C, Ertekin K. Communication Skills Training: Effects on Attitudes toward Communication Skills and Empathic Tendency, Education for Health, Volume 21, Issue 2, 2008

[12] Rider, E.A. & Keffer, C.H. 2006. Communication skills competencies: definitions and a teaching tool box. Medical Education. 40: 624-629.

[13] Royston, V. 1997. How do medical students learn to communicate with patients? A study of four year medical students’ attitudes to doctor-patient communication. Medical Teacher. 19: 257-262.

[14] Stimpson, M., Buckman, R., Stewart, M. 1991. Doctorpatient communication: the Toronto consensus statement. British Medical Journal. 303: 1385- 1387.

[15] Stewart, M.A. 1984. What is a successful doctor-patient interview? A study of four interactions and outcomes. Social Science and Medicine. 19: 167-175.

[16] Anvik, T., et al. 2007. Assessing medical students' attitudes towards learning communication skills – which components of attitudes do we measure? BMC Medical Education. Volume 7.

[17] Kortz SM (1989) Curriculum structuring to enhance communication skills development. In: Stewart M & Roter D (eds) Communication with medical patients. Newbury Park, CA: Sage Publications.

[18] Anvik, T., Gude, T., Grimstad, H., Bærheim, A., Fasmer, O.B, Hjortdahl, P., et al. (2007). Assessing medical students' attitudes towards learning communication skills- which components of attitudes do we measure? BMC Med Educ., 7 (4).

[19] Banya, S. K., (2005). Study of factors affecting attitudes of young female students towards chemistry at high school level. (Paperback, ISBN-10: 1581122594, ISBN-13:978-1581122596)

[20] Berg, C. A. R. (2005). Learning Chemistry at the University level: Students' attitudes, motivation and design of the learning environment. Chemistry Education Research and Practice, 6 (1) 1-18

[21] Smith, R. C., Lyles, J. S., Mettler, J., Stoffelmayer, B. E., Van Egeren, L.F., Marshall, A. A., Gardiner, J. C., Maduscheke, K. M., Stanley, I. M., Osborn, G. G., Shebrec, V., Greenbaum, R. B. (1998). The Effectiveness of Intensive Training for Residents in Interviewing, Ann Intern Med, 128, 118-126.

[22] Dan Nimmo, Political communication and public opinion in America. California, Good publishing company, 1978, p.4

[23] Ibid. p.6.Understanding intercultural communication,1992, p.5-16.

©IJRASET: All Rights are Reserved
New Zealand Psychologists Board, a guideline document, Core Competencies for the Practice of Psychology in New Zealand, 2011.

Lang, G., & Van der Molen, H. T. (1992). Methodologie van Gesprekstrooiing: Een basis voor hulpverlening. [Psychological Communication. A basis for the helping process]. Soest: Uitgeverij Nelissen.

Miller, G. E. (1990). The assessment of clinical skills/competence/performance. Academic Medicine, 65 (9 Suppl), S63-S67.

Murphy, G., Murphy, L. B. & Newcomb, T. M. (1937). Experimental Social Psychology. An Interpretation of Research upon the Socialization of the Individual. New York: Harper & Brothers.

Argyle, M. (Ed.) (1981). Social Skills and Work (p. xii-xix). London: Methuen & Co.Ltd.

Buck, R., Van Lear, C. Verbal and Nonverbal Communication: Distinguishing Symbolic, Spontaneous, and Pseudo-Spontaneous Nonverbal Behavior. Journal of Communication, September 2002.

Fishbein, M., & Ajzen, I. (1975) Belief, Attitude, Intention, and Behaviour: An Introduction to Theory and Research. Reading, MA: Addison-Wesley.

Güzel, H. (2004). The relationship between students' success in physics lectures and their attitudes towards mathematics. Journal of Turkish Science Education 1, (1), 28-29.

Kan, A., & Akbas, A. (2006). Affective factors that influence chemistry achievement (attitudes and self efficacy) and the power of these factors to predict chemistry achievement. I. Journal of Turkish Science Education, 3 (1), 76-85.

Kobella, T.R. (1989, April 1). Research Matter - to the Science Teacher: Changing and Measuring Attitudes in the Science Classroom. Georgia, Athens.

Neerinck, D. & Palmer, C. R., (1979). Aspirations and attitudes of students in chemistry. Higher Education, 8, 69-87. 60

Page-Bucci, H. (2003). The value of Likert scales in measuring attitudes of online learners.

Rees, C. E.; Sheard, C. E., & McPheeson, A. C., (2002). A qualitative study to explore undergraduate medical students’ attitudes towards communication skills learning. Journal Med. Teach., 24, 289-293.

Reiss, M.J., (2004). Students' Attitudes towards Science: A Long – Term Perspective. - Institute of Education, University of London.

Trumper, R. (2006). Factors Affecting Junior High School Students’ Interest in Biology. Science Education International, 17, 1-48.

Young, T. (1998). Student Teachers’ Attitudes towards Science. Evaluation and Research in Education, 12.

Wright, R; Bylund, C; Ware, H. T, (2006) Medical student attitudes toward communication skills training and knowledge of appropriate provider-patient communication skills: A comparison of first-year and fourth-year medical students. Med Educ Online [serial online]:11:18

Hajek P, Næberg E, Cushng A. Medical students’ concerns about communicating with patients. Med Educ 2003;34:656-8.

Khashab SS. Attitudes of Alexandria medical students towards communication skills learning. The Journal of the Egyptian Public Health Association. 2006; 81(5-6):355-372.

Ahn S, Yi Y, Ahn D. Developing a Korean communication skills attitude scale: comparing attitudes between Korea and the West. Medical Education. 2009; 43(3):246-253.

Anvik T, Gude T, Grimstad H, Baerheim A, Fasmer OB, Holen A, Risberg T, Vaglim P. Medical students’ cognitive and affective attitudes towards learning and using communication skills--a nationwide cross-sectional study. Medical Teacher. 2008; 30(3):272-279.

Shankar RP, Dubey AK, Mishra P, Deshpande YV, Chandrasekhar TS, Shivandra PG. Student attitudes towards communication skills training in a medical college in Western Nepal. Education for Health. 2006. 19(1):71-84.

Cleland J, Foster K, Moffat M. Undergraduate students’ attitudes to communication skills learning differ depending on year of study and gender. Medical Teacher. 2005; 27(3):246-251.

Harlak H, Dereboz C, Gemalmaiz A. Validation of a Turkish translation of the Communication Skills Attitude Scale with Turkish medical students. Education for Health. 2008; 21(1):55-55.

George D, Mallory P. SPSS for Windows step by step: A simple guide and reference. 11.0 update. 4th. ed. Boston: Allyn & Bacon; 2003.

Kevin B. Wright, Carma Bylund, Jennifer Ware, Patricia Parker. Medical Student Attitudes Toward Communication Skills Training and Knowledge of Appropriate Provider-Patient Communication: A Comparison of First-Year and Fourth-Year Medical Students.2006

B Molinuevo, R Torrubia. Validation of the Catalan Version of the communication Skills Attitude Scale (CSAS) in a Cohort of South European Medical and Nursing Students, Universitat Autònoma de Barcelona, Spain, 2011.

María Gadifele Mogane, Relationship between the attitude of first year medical students towards chemistry and their learning outcomes university of south Africa, 2010.