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Developing and validating a tool to evaluate communication and patient counselling skills of pharmacy students: A pilot study

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Abstract

Introduction: Communication skills for pharmacy students are very important in their future practice as a pharmacist. But there are still some questions which remains about the evaluation of communication skills and measuring their outcomes in pharmacy students. Due to the lack of comprehensive and accurate tools for evaluating communication skills and pharmacists' consultation, this study intended to design and validate a tool to assess pharmacy students' performance in developing effective communication and consulting skills.

Methods: In this cross-sectional study, a communication and counselling skills tool for pharmacy students was developed and contextualised following three steps. Content validity of the tool was examined by seven experts through two round Delphi technique. Reliability of the tools was calculated by Cronbach's *alpha*. The inter-rater reliability between Simulated Patients (SPs) and experts was determined by calculating the intra-class correlation coefficient and *kappa* coefficient.

Results: A tool with 22-item was developed. Cronbach's *alpha* for internal consistency was 0.72. The inter-rater reliability by the use of *kappa* coefficient test between raters and SPs was 0.75 (p=0.01). Reliability coefficients for instrument of this study were high and acceptable.

Conclusion: Based on the findings of the research, developing appropriate and context-based tool for assessing pharmacists' communication and counselling skills is necessary. This tool can be a useful for evaluating communication and counselling skills of pharmacy students. The development and validation of the tool has been a positive prospect for researchers.

Keywords: *Communication, Patient Counselling, Education, Pharmacy Students*

Introduction

Establishing effective communication and giving advice are key factors in providing high quality services to patients, so their quality should be considered thoroughly (Hargie *et al*., 2000). Currently in the healthcare system, teaching and evaluation of the communication and counselling quality is very important issues for health care providers. Therefore, communication skills and effective consultation have gained a very important position in pharmacy education (Henry *et al*., 2013).

Several studies indicate that teaching communication skills to healthcare team members increases the quality of services and patients' satisfaction, and decreases medical errors (Uitterhoeve *et al.,* 2010, Curtis *et al*., 2013, Oliaee *et al*., 2014). Also, establishing effective communication can improve patients' satisfaction, decrease depression and anxiety, and communication could help patients align with the training and abide by the directions given to them on medication issues (Uitterhoeve *et al.*, 2010). Communication skills may provide patient satisfaction and decline the errors (Fortin, 2002). Improving communication skills causes valuable and positive effects on healthcare performance (Bridges, 2003, Ha & Longnecker, 2010). In contrast, different

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studies show that weak communication skills and consultation could have negative effects on patients' physical, psychological, social, and economical aspects (Kidd *et al*., 2005). This evidence can be also applied in pharmacy performance (Bridges 2003, Ha & Longnecker, 2010). When patients and pharmacists establish an effective relationship, there is going to be a major improvement in the quality of pharmaceutical care (Berger, 2005).

Coeling and Cukr pointed out that in order to create a suitable relationship, it is essential for students to be familiar with the principles of communication and effective consultation, which can be established through communication skills and consultation courses in the educational curriculum (Coeling and Cukr 2000). Therefore, there has been an effort to provide students with training in different fields of medical sciences. The role of pharmacists in giving information to patients about the drugs which are prescribed for their illnesses is considered by patients to be a very important issue. Hence, practical and theoretical training of counselling will improve pharmacists' competency to conduct interviews with patients in order to elucidate the necessary patient data (Wallman *et al*., 2013, Hanya *et al*., 2017). Most developed countries are trying to make changes in their pharmacy educational programmes and have added some communication courses to their curricula (Chereson *et al*., 2005, Lust & Moore 2006). Teaching communication skills is now included in 75 per cent of the United States (US) faculties' educational curricula (Beardsley, 2001). Opportunities should be given to pharmacy students to practice providing effective communication to patients in stimulated situations before they encounter real patients (Mesquita *et al*., 2010). Applying the mentioned modifications facilitates and helps pharmacy students to cultivate the skills that make it possible to establish effective communication with patients and then safety; so it is necessary to train pharmacists' in communication skills and consultation in order to achieve patient safety (Liekens *et al*., 2014).

Although studies show the importance of teaching communication skills to pharmacy students, there are still questions that remain regarding the definition of expected outcomes and methods of assessing communication skills. However, there are some tools for the assessment of communication skills, but they are not comprehensive enough to assess all the parts of communication skills and counselling ability of pharmacists (Shah & Chewning 2006). Greenhill *et al.* (2011) trained pharmacists based on Calgary-Cambridge guideline and their relationship with patients were assessed by this guidelines (Greenhill *et al*., 2011). Mackellar *et al*. (2007) also identified criteria for assessing communication skills of pharmacy students with patients in their study (Mackellar *et al.,* 2007). Due to the lack of a comprehensive and accurate tool for evaluating communication skills and pharmacists' consultation, this study aimed to design a tool to assess pharmacy students' performance in creating effective communication and consulting skills.

Methods and Materials

In this descriptive and cross-sectional study, the communication and counselling skills of pharmacists (CCSP) tool was contextualised and validated. The study took place at Tehran University of Medical Sciences (TUMS), School of Pharmacy.

Demographic characteristic of the participants

The total number of participants in this study were 27; of whom, seven were experts, 12 pharmacy students, two simulation educators, four simulated patients and two film producers. Experts were individuals who had knowledge and experience of communication skills in the field of pharmacy and medical education. The third and fourth year pharmacy students average age was 21 to 25 years of age effectively, with 60 percent of them being females. The four eligible SPs were all women, with an average age of 37 years.

The process of psychometric properties is described in Figure 1. The method of implementing the study included three steps:

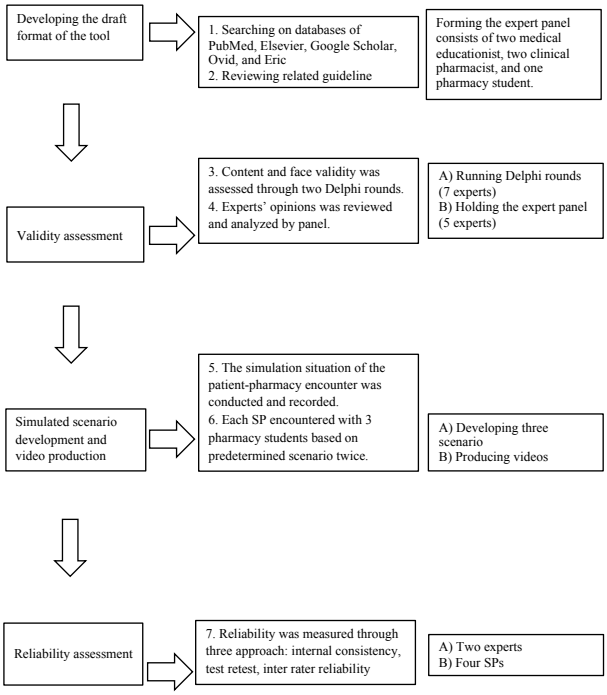
Phase 1. Developing the tool and validity assessment

Prior to the development of the tool, a comprehensive internet search was conducted on the related literature using databases: PubMed, Elsevier, Google Scholar, Ovid, and Eric; using the following keywords: communication skills/competency, counselling skills/ competency, and consultation as well as pharmacy education. Based on the search findings, the authors developed a questionnaire by placing emphasis on criteria for the assessment of pharmacy students' communication and counselling skills with patients (American Journal of Health-System Pharmacy, 1997; Hargie *et al*., 2000; James *et al*., 2001; McDonough & Bennett, 2006; Mackellar *et al.,* 2007; Mesquita *et al*., 2010,;Tully *et al*., 2011).

Content and face validity were evaluated through two Delphi rounds. During the first Delphi round, the developed tool was sent to seven relevant experts, including pharmacists and medical education specialists. They were asked to comment on any ambiguity or difficulty in understanding the concept of each item on the checklist. They were given ten days to return the checklists. In order to collect the comments from the first phase of Delphi implementation and to prevent loss of samples, three days before the deadline for collecting comments, the researcher reminded the participants to return the questionnaires in person. After collecting the questionnaires, a list of mentioned items was collated and the initial checklist was revised. The experts' opinions were analysed using content analysis approach. Alongside revising the checklist in the first phase of Delphi, the existing literature and resources were reviewed again and the findings were added to the second phase of Delphi. In the second phase, after applying the comments, the items were returned to the experts to obtain maximum agreement and were finally approved once agreement was reached. The agreement

between experts was higher than 90%, and no further suggestion were mentioned.

Figure 1. Flow Chart of the Study



Phase 2. Simulated Patients, scenario development and video recording

In this phase of the study, pharmacy students' performance in communication skills and consultation based on predetermined scenarios and evaluation tool was checked in the skills lab of the School of Pharmacy, TUMS (Mafinejad *et al.,*2017). The simulation situation of the patient-pharmacy encounter was conducted at TUMS pharmacy lab. Each SP encountered three pharmacy students based on predetermined scenarios. After each encounter each SP fills out a developed checklist in order to assess students' communication skills and counselling performance. In order to evaluate the reliability of the instrument in measuring the students' performance over time, the encounter was repeated again after two weeks with the same student and the same SP in accordance with the same scenario, and the assessment was done. No special instructions were given to the participants for the two week interval. In order to investigate the internal validity of the tool, the interaction between pharmacy students and SPs was recorded and the videos were watched by other SPs and raters at each station who also completed the questionnaire.

Phase 3. Reliability assessment

In this study, the reliability of the tool was measured by performing internal consistency, 'test and re-test', and inter-rater reliability analyses. To do so, during two sessions, the videos which was recorded from students' encounter with SPs sessions were watched and rated by two experts and SPs individually. The correlation coefficient between their scores was calculated to determine the inter-rater reliability between experts and also between experts and SPs.Internal consistency was calculated through Cronbach's *alpha.*

Statistical analysis

SPSS software was used to analyse the data collection in this study. *Kappa* coefficient for non-parametric data, intra-class correlation coefficient and Pearson statistical methods were used to analyse the parametric data.

Ethical consideration

The study was approved by Medical Education Research Centre at TUMS (No. 133-16592). Informed consent was taken for all the raters who participated in this study.

Results

Developing and checking the checklist validity

The content and face validity of the tool was approved through two Delphi rounds. The initial number of checklist items from review of literature phase was 24. After gaining 95 percent agreement, the tool was approved with a total of 22 items. The tool items were classified into three categories: establishing effective communication (nine questions); interview and collecting information (four questions); consultation and providing information (nine questions). Scale of scoring the tool questions was defined from zero (poor performance) to two (good performance). The details about items are shown in Table I.

Evaluating the reliability

In this study, Cronbach's *alpha* index was used to calculate the reliability of the checklist. In this study, the Cronbach's *alpha* coefficient was 0.72, indicating the coherence of the scale material. The results of removing each question to determine the internal consistency of the checklist showed that questions 1 and 20, if excluded, would have increased the reliability of the tool to 0.74. Question 22 had the highest correlation with other questions and, if removed, the reliability of the tool decreased to 0.67 (Table I).

In order to describe the degree of agreement between raters' scores for each question of the checklist, the *kappa* reliability coefficient was used. The results are

Table I: Reliability of the communication and counselling skills of pharmacy students (CCSP) tool

Items		Scale mean if item deleted	Scale variance if item deleted	Corrected item total correlation	Cronbach's *alpha* if item deleted
Establishing Effective Communication	Greets And Asked The Name Of Patient	46.23	29.16	0.10	0.74
	Introduce Him/Herself To The Patient	47.13	28.87	0.34	0.71
	Interacts Politely & Respectfully With The Patient	45.32	31.20	0.01	0.72
	Used Adequate Verbal & Non-Verbal Techniques (Eye Contact, Gestures, Hands, Etc.)	45.41	29.89	0.30	0.71
	Spoke Clearly With Moderate Paste	45.36	30.37	0.22	0.72
	Used Understandable Simple Layman Words	45.32	31.25	0.01	0.72
	Did Not Use Sophisticated Medical Terminology	45.32	31.25	0.01	0.72
	Without Any Interruption Carefully Listened To Patient (Active Listener)	45.34	31.16	0.01	0.72
	Gave The Patient The Opportunity To Express Their Concerns And Questions Regarding Prescribed Medications	45.54	27.54	0.53	0.69
Interview & Collecting Information	Patient Was Questioned About The History Of Prescribed Drugs Use	46.58	26.15	0.42	0.70
	Patient Was Questioned About Other Drugs (OTC & Prescription Drugs) Currently They Are Using	46.13	29.62	0.19	0.72
	Asked The Patient About Drug Allergies Or Food Allergies	47.19	30.20	0.15	0.72
	Ask The Childbearing Age Female Patient If They Were Pregnant Or Breastfeeding	47.32	31.20	0.01	0.72
Consultation And Providing Information	Described The Prescription Drug Name And Their Functions. (Why They Are Prescribed)	45.58	27.75	0.44	0.70
	Provided Counselling To The Patient Regarding The Correct Method Of Taking The Prescription Drugs (I.E., Before Or After Meals, Use Plenty Of Water, Shaking The Drug Spray ...)	45.47	27.91	0.42	0.70
	Informed The Patient About Duration Of Therapy With Prescription Drugs	56.56	25.86	0.45	0.69
	Informed The Patient About Time To Take Medications And Drug Dosage And Interval Of Use	45.58	27.13	0.57	0.69
	Discussed About Handling & Warnings On Prescription Drugs (I.E., Exposure To Sunlight, Temperature …)	46.41	27.22	0.29	0.71
	Educate The Patient About The Common Side Effects Of Prescription Drugs (i.e., Digestive Problems, Skin Rashes, ...)	46	26.17	0.47	0.69
	Informed The Patient About The Missed Dose Of Prescribed Medications	46.86	30.82	0.35	0.74
	Asked The Patient To Describe How She/he Is Going To Take Prescribed Medication And Check Their Understanding Of Drug Counselling	46.65	28.41	0.20	0.72
	Encouraged The Patient To Ask Questions Or Any Concern About Prescribed Medications	46.23	24.45	0.61	0.67

presented in Table II. The *kappa* coefficient between raters' scores for questions is 0.75 (Table II), which is statistically significant ($p \leq 0.05$). Also, comparing averages of raters' and SPs' scores in the first and second sessions indicates the sustainability of the tool in assessing the performance of pharmacy students with the same SP (Table III).

Table II: Correlation coefficient between scores of raters in each question by calculating *kappa* coefficient

	Value	Standard error	Approx. Tb	*p*-value
Kappa coefficient	0.75	0.35	14.93	≤0.01

Table III: Comparison of averages of raters' scores in CCSP

	Average and SD of first session scores	Average and SD of second session scores	*t*	*p*-value
Rater 1	8.43 ± 42.75	9.14± 42.33	0.20	0.84
Rater 2	6.41 ± 46.41	4.79± 45.66	0.49	0.63

Table IV: Intra-class correlation coefficient (ICC) between averages scores of CCSP

	Reliability	Value	*p*-value
Between raters	0.92	13.64	≤0.01
Between SPs	0.85	6.97	≤0.01
SP1 and standard score*	0.77	4.35	0.01
SP2 and standard score*	0.64	2.8	0.05
SP3 and standard score*	0.85	5.15	0.01
SP4 and standard score*	0.77	4.4	0.01

*Standard score was calculated as an average between scores of two expert evaluators.

Discussion

The present study was conducted to develop a tool to assess communication and consultation skills of pharmacy students and psychometrics in TUMS. The validated tool for assessing the pharmacist competency regarding communication skills and consulting was developed.

Different approaches were applied in order to develop and use psychometrics on the tools for assessing communication and consulting skills of pharmacy students in this study, such as simulation situations where students' encountered SPs and experts, and evaluation of SPs' and students' performance. Cronbach's *alpha* index was also used to calculate the reliability of the designed checklist. The internal correlation coefficient was calculated at 0.72, which stands on good repeatability range. Checking the internal coherence of the questionnaire demonstrated that almost all questions had the same value in the total score and *alpha* would not raise significantly after removing each question, so that all of the questions had an acceptable validity. In a study by Hosseinchari and Fadakar with the aim of investigating effect of academic education on communication skills, a modified Communication Skills Test was used, their results indicates that the tool had acceptable reliability and validity (Hosseinchari & Fadakar 2006). In addition to that, Delphi method was used in this study to check the tool's validity. Based on existing literature, this method can be used to gain specialists' opinions and reach consensus (Yousuf, 2007).

In order to describe the degree of agreement between raters' score for each checklist question, *kappa* analysis method was used. The *kappa* agreement between the raters was 0.75 and the *p*-value was less than 0.05, which indicates the high reliability of the raters' scores in each question. 'Test and re-test' method was used to check the reliability and findings indicated high reliability of SPs scores over the time. Training the SPs and using an exam guide raises their performance reliability Sinclair & McCarty, 2009), because with similar performances, all the students are exposed to similar circumstances. Therefore, since the SPs had received adequate trainings before entering this study and the authors' used an exam guide, the high reliability between 'test and re-test' can be explained.

Also, in this study, the correlation coefficient between SPs and raters' scores in filling out the checklist was averaging above 0.7% and was statistically significant. The intra-class correlation coefficient between the SPs' average scores was 0.85, which is statistically significant ($p \leq 0.05$). Martin *et al*. found in a study that the standard patients' opinions did not have a significant coherence with professors' opinions in rating the students (Martin *et al*., 1996). However, McLaughlin *et al*. in a similar study found out that the standardised patients' opinions had a significant coherence with professors' opinions in scoring the students. Researchers believe that this difference might be because of different personalities of the SPs (McLaughlin *et al*., 2006). In this study, there was a significant correlation between SPs' scores and raters' scores, which can be attributed to conducting training courses for SPs and gaining a common understanding of the process of assessing pharmacy students' performance in communication skills and consulting using the designed questionnaire. Also, since the SPs who participated in this study were invited from the University's simulated patient bank, they had experienced similar positions. This could prove the role of experience and SPs' positive attitude in assessing students' performance. In a study by Amano *et al*. the findings represented a high coherence between standard patients and raters. In that study, the researchers pointed out that the observed differences between SPs' and professors' results could be because of different attitudes, talents, experiences, and tendencies. Those researches finally concluded that their educational programme was successful in preparing and training the SPs. They also announced that the SPs were effective and reliable raters (Amano *et al*., 2004).

The findings of the present study indicated that using a tool for assessing pharmacy students' competencies regarding communication and consultation abilities is valid and reliable measures. The authors' findings emphasise that pharmacy health policy makers should take into account that modifying pharmacy curriculum and considering specific education and assessment of pharmacy students by the use of developed tools through running pharmacy students' OSCEs is strongly recommended.

Limitations

The validation of the tool in a real setting is a difficult task. Therefore, in this study, the authors used a pharmacy lab as a setting to assess the tool psychometric properties. Another limitation was the small sample of students for validation of the tool.

Conclusion

The developed tool for assessment of communication and consultation skills of pharmacy students has acceptable psychometrics to evaluate pharmacy students' performance. Based on findings from Delphi round, the questionnaire's validity is desirable and its reliability by internal coherence method and reliability between raters is acceptable. Further studies are recommended to evaluate pharmacy students' performance in communication and consultation skills using the developed tool.

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References

Amano, H., Sano, T., Gotoh, K., Kakuta,S., Suganuma, T., Kimura, Y., Tsukasaki,H., Miyashita, H., Okano, T. & Goto, N. (2004). Strategies for training standardized patient instructors for a competency exam. *Journal of Dental Education*, **68**(10), 1104-1111

American Journal of Health-System Pharmacy. (1997). ASHP guidelines on pharmacist-conducted patient education and counseling. *Am J Health Syst Pharm*, **54**(4), 431-434

Beardsley, R.S. (2001). Communication skills development in colleges of pharmacy. *American Journal of Pharmaceutical Education,* **65**(4), 307

Berger, B.A. (2005). Communication skills for pharmacists: building relationships, improving patient care. American Pharmacists Assn.

Bridges, J.F. (2003). Factors in studying patient-physician communication. *JAMA*, **290**(19), 2543-2544

Chereson, R.S., Bilger, R., Mohr, S. & Wuller, C. (2005). Design of a pharmaceutical care laboratory: a survey of practitioners. *American Journal of Pharmaceutical Education*, **69**(1), 3

Coeling, H.V.E. & Cukr, P.L. (2000). Communication styles that promote perceptions of collaboration, quality, and nurse satisfaction. *Journal of Nursing Care Quality,* **14**(2), 63-74

Curtis, J.R., Back, A.L., Ford, D.W., Downey, L.,. Shannon, S.E., Doorenbos, A.Z., Kross, E.K.,Reinke, L.F., Feemster, L.C., & Edlund, B. (2013). Effect of communication skills training for residents and nurse practitioners on quality of communication with patients with serious illness: a randomized trial. *JAMA*, **310**(21), 2271-2281

Fortin, A.H. 6th. (2002). Communication skills to improve patient satisfaction and quality of care. *Ethnicity & Disease*, **12**(4), S3, 58-61

Greenhill, N., Anderson, C., Avery, A. & Pilnick, A. (2011). Analysis of pharmacist–patient communication using the Calgary-Cambridge guide. *Patient Education and Counseling*, **83**(3), 423-431

Ha, J.F. & Longnecker, N. (2010). Doctor-patient communication: a review. *The Ochsner Journal*, **10**(1), 38-43

Hanya, M., Kanno, Y., Akasaki, J., Abe, K., Fujisaki, K. & Kamei, H. (2017). Effects of communication skill training (CST) based on SPIKES for insurance-covered pharmacy pharmacists to interact with simulated cancer patients. *Journal of Pharmaceutical Health Care and Sciences*, **3**(1), 11

Hargie, O.D., Morrow, N. C. & Woodman, C. (2000). Pharmacists' evaluation of key communication skills in practice. *Patient Education and Counseling*, **39**(1), 61-70

Henry, S.G., Holmboe, E.S. & Frankel, R.M. (2013). Evidence-based competencies for improving communication skills in graduate medical education: a review with suggestions for implementation. *Medical Teacher*, **35**(5), 395-403

Hosseinchari, M. & Fadakar, M. (2006). Investigating the effects of higher education on communication skills based on comparison of college and high school students. *Training & Learning Researches*, **1**(15), 21-32

James, D., Nastasic, S., Davies, J. & Horne, R. (2001). The design and evaluation of a simulated‐patient teaching programme to develop the consultation skills of undergraduate pharmacy students. *Pharmacy World & Science*, **23**(6), 212-216

Kidd, J., Patel, V. & Peile, Y.C. (2005). Clinical and communication skills: Need to be learnt side by side. *British Medical Journal*, **330**(7488), 374

Liekens, S., Vandael, E., Roter, D., Larson, S., Smits, T., Laekeman, G. & Foulon, V. (2014). Impact of training on pharmacists' counseling of patients starting antidepressant therapy. *Patient Education and Counseling*, **94**(1), 110-115

Lust, E. & Moore, F.C. (2006). Emotional intelligence instruction in a pharmacy communications course. *American Journal of Pharmaceutical Education*, **70**(1), 06

Mackellar, A., Ashcroft, D.M., Bell, D., James, D.H. & Marriott, J. (2007). Identifying criteria for the assessment of pharmacy students' communication skills with patients. *American Journal of Pharmaceutical Education,* **71**(3), 50

Mafinejad, M.K., Rastegarpanah, M.,Moosavi, F. & Shirazi, M. (2017). Training and validation of standardized patients for assessing communication and counseling skills of pharmacy students: A pilot study. *Journal of Research in Pharmacy Practice*, **6**(2), 83

Martin, J.A., Reznick, R.K., Rothman, A., Tamblyn, R.M. & Regehr, G. (1996). Who should rate candidates in an objective structured clinical examination? *Academic Medicine,* **71**(2), 170-175

McDonough, R.P. & Bennett, M.S. (2006). Improving communication skills of pharmacy students through effective precepting. *American Journal of Pharmaceutical Education*, **70**(3), 58

McLaughlin, K., Gregor, L., Jones, A. & Coderre, S. (2006). Can standardized patients replace physicians as OSCE examiners? *BMC Medical Education*, **6**(1), 12

Mesquita, A.R., Lyra, D.P., Brito, G.C., Balisa-Rocha, B.J.,Aguiar, P.M. & de Almeida Neto, A.C. (2010). Developing communication skills in pharmacy: a systematic review of the use of simulated patient methods. Patient Education and Counseling, **78**(2), 143-148

Oliaee, N., Emami, K. & Kalhor, M. (2014). The effects of teaching communication skills to nurses on patients' satisfaction. *Advances in Environmental Biology*, **8**, 801-805

Parkes, J., Sinclair, N. & McCarty, T. (2009). Appropriate expertise and training for standardized patient assessment examiners. *Academic Psychiatry,***33**(4), 285

Shah, B. & Chewning, B. (2006). Conceptualizing and measuring pharmacist-patient communication: a review of published studies. *Research in Social and Administrative Pharmacy*, **2**(2), 153-185

Tully, M.P., Beckman-Gyllenstrand, A. & Bernsten, C.B. (2011). Factors predicting poor counselling about prescription medicines in Swedish community pharmacies. *Patient Education and Counseling,* **83**(1), 3-6

Uitterhoeve, R., Bensing, J., Grol, R., Demulder, P. & van Achterberg, T. (2010). The effect of communication skills training on patient outcomes in cancer care: a systematic review of the literature. *European Journal of Cancer Care,* **19**(4), 442-457

Wallman, A., Vaudan, C. & Sporrong, S.K. (2013). Communications training in pharmacy education, 1995-2010. *American Journal of Pharmaceutical Education,* **77**(2), 36

Yousuf, M.I. (2007). Using experts' opinions through Delphi technique. *Practical Assessment, Research & Evaluation*, **12**(4), 1-8