

This definitive version of this article is available at: www.blackwell-synergy.com
and was published in Medical Education 2007; 41: 450-9 at :
<http://www3.interscience.wiley.com/journal/117964731/home>

Theory-based communication skills training for medicine counter assistants to improve consultations for nonprescription medicines

Dr M C Watson
Research Fellow
Department of General Practice and Primary Care*
University of Aberdeen
Westburn Road
Aberdeen
AB25 2AY

Tel: 00 44 1224 553785
Fax: 00 44 1224 550683
Email: m.c.watson@abdn.ac.uk

Dr J Cleland*
Ms J Inch*
Professor C M Bond*

Dr J Francis
Health Services Research Unit
University of Aberdeen

Contributors:

MW, JC, JF, CB made substantial contributions to the conception and design of this study. JC, MW and JI designed the content of the training package and delivered the training. JI co-ordinated the daily running of the study and collated simulated patient data. MW, JF and JI developed, delivered and analysed the TPB survey. MW drafted the article. JC, JF, CB and JI revised the article critically for intellectual content. MW, JC, JF, JI, and CB approved the final version to be published.

Source of funding

This study was funded by the Chief Scientist Office, Scottish Executive Health Department.

Acknowledgements

We thank the medicine counter assistants and pharmacists who participated in this study. We also thank the Northern node co-ordinator of SPPIRe who assisted with the recruitment of study participants.

Ethical Approval

This study was approved by NHS Grampian Local Research Ethics Committee.

Conflict of Interest

None

Abstract (250 max)

Introduction

Medicine counter assistants (MCAs) supply the majority of nonprescription medicines (NPMs) to consumers. Sub-optimal communication during consultations between consumers and MCAs has been identified as a major cause of inappropriate supply. Evidence from medical consultations suggests that training in specified communication skills can change professional behaviour.

Methods

A feasibility study was conducted to evaluate the effect of theory-based communication skills training for MCAs. Thirty MCAs were recruited from 21 community pharmacies in Grampian, Scotland.

The intervention comprised two, 4-hour training sessions, held one month apart. The sessions were informed by results from previous studies and the Calgary-Cambridge, evidence based model of communication skills training. Strategies for guiding individuals through change were adopted from cognitive behavioural therapy techniques. The Theory of Planned Behaviour was used to assess potential pathways to behaviour change. Recorded data were collected during covert visits to the pharmacies by simulated patients at baseline, and one month after each training session. Communication performance was measured as the number and type of questions asked.

Results

Compared with baseline measures, the total number of questions asked increased in the intervention group at both time points. No change was shown with the control group between Baseline and Follow-up I, and a decrease was shown in the total number of questions from Follow-up I and II. The intervention appeared to have greater effect on consultations involving advice, compared with product requests.

Discussion

Communication performance improved following training. Increased information exchange is associated with the guideline compliant supply of NPMs. A substantive randomised controlled trial is now planned to assess the intervention.

Overview Box (max 100)

What is already known on this subject

Sub-optimal communication during consultations between consumers and medicine counter assistants has been identified as a major cause of the inappropriate supply of nonprescription medicines.

What this study adds

This is the first study to use a theoretical approach to the development, delivery and assessment of communication skills training for pharmacy support staff, to improve consultations for nonprescription medicines.

Suggestions for further research

The feasibility of this intervention has been demonstrated in this small-scale study. Future research will involve a randomised controlled trial to assess its effect and efficiency on a larger scale.

Introduction

The reclassification of prescription only medicines is a global strategy to remove selected medicines from national drugs budgets and increase public access for the purpose of self-care. Reclassified medicines, known as nonprescription medicines (NPMs), are available from community pharmacies and other retail outlets, depending on their legal categories, which vary across countries. Ideally, the supply of NPMs from community pharmacies should be evidence based and lead to safe and effective treatment. There is evidence, however, of inappropriate supply of NPMs¹⁻³ and sub-optimal communication between pharmacy support staff (i.e. medicine counter assistants (MCAs)) and customers has been identified as a major cause^{3,4}. In particular, MCAs ask fewer questions in consultations in which the customer asks to purchase a specific product ('product request' consultation) than in consultations in which the customer asks for advice about how to treat symptoms ('advice request' consultation)

Although there is considerable empirical data regarding the provision of communication skills training to the medical profession, there has been little evaluation of how proven techniques in the medical setting transfer to other health care settings and health professionals. Furthermore, although MCAs play a key role in consultations for NPMs, there is little evidence of them receiving communication skills training⁴. There is evidence, however, of the association between communication and clinical guideline compliant outcomes with consultations for NPMs⁵, which shows that consultations involving greater information exchange are more likely to be guideline compliant. There is also evidence from medical consultations that training in specified communication skills is effective in changing professional behaviour⁶.

The Theory of Planned Behaviour (TPB)⁷ proposes a model for human action. The model represents the three variables (attitudes; subjective norms (perceived social pressure); perceived behavioural control), which the theory suggests will predict the intention to perform a behaviour. Intentions are the precursors of behaviour. This model may provide a useful basis for the development of the communication skills training because: (1) it is relevant to this context i.e. there is evidence that attitudes, perceived social pressure (e.g. from the customer) and perceived control over the behaviour are influences on the nature and quality of information exchange in community pharmacies⁴; (2) although outside the scope of the theory, identifiable techniques for changing each of these predictor variables exist in the behaviour change literature; (3) the TPB model has been extensively used in research about people's behaviour relating to their own health and is increasingly being used to investigate the behaviour of health care professionals⁸; (4) all the variables in this model are measurable and their psychometric properties can be assessed.

While the TPB provides a conceptual framework that is relevant to both intention and behaviour change, and evaluation of the process of change, it does not provide strategies for guiding individuals through change. Cognitive Behavioural Therapy (CBT)⁹ techniques can be used to identify and address individuals' assumptions and beliefs (i.e. attitudes) about specific behaviours e.g. communication with consumers during consultations for NPMs. These techniques also offer alternatives to current behaviours, using participants' experience of the target behaviour to achieve increments in perceived behavioural control, and to evaluate the use of new behaviours through role-play. The application of CBT in group settings may also enhance participants' perception of appropriate communication behaviour of their peers, thereby increasing subjective norms.

A feasibility study was conducted to develop, deliver and evaluate a theory-based communication skills training package to target the specific needs of MCAs to enhance their information exchange (communication) with customers. The overall hypothesis was that

communication skills training would enhance information exchange between pharmacy support staff and customers. The specific research questions were:

- Does training in communication behaviours based on the Theory of Planned Behaviour and Cognitive Behavioural Therapy lead to better communication performance by MCAs?
- Does communication skills training improve information exchange between customers and pharmacy support staff in relation to the supply of NPMs?

Methods

Design

A feasibility study was conducted to develop, deliver and evaluate a theory-based communication skills training package for MCAs. [Copies of all materials used in the delivery and evaluation of this study are available from the Principal Investigator.] The delivery and effect of the training package was evaluated using a randomised controlled trial.

Recruitment of participants

A letter was sent to the main pharmacist in all community pharmacies in Grampian, Scotland that were registered with the Scottish Practices and Professionals involved in Research (SPPIRe) network, inviting them to participate. There was a recruitment target of 36 MCAs. Due to insufficient numbers, letters of invitation were subsequently sent to the remaining pharmacies in Grampian. Each community pharmacy that responded positively to the invitation, was visited by a member of the research team (MW) to discuss the study with the MCAs and obtain signed consent from those wishing to participate.

Randomisation of MCAs

The pharmacies were stratified by the number of participating MCAs. A 2:1 (Intervention: Control) randomisation was used, based on random numbers, to maximise the number of MCAs exposed to the intervention.

Intervention

1. The intervention comprised two 4-hour training sessions, held one month apart. The content of the sessions was informed by results from previous studies^{2,4,5,10} which showed that few consultations include all WWHAM (Figure 1) questions being asked, and that more questions are asked or information elicited during advice consultations compared with product consultations.

2. Interviews were conducted with six MCAs in two pharmacies (one rural, small chain and one urban, large chain) that were not participating in the study, to discuss the training package. The topics discussed included an overview of the study and the proposed content and structure of the training sessions. Feedback on the content of the training package was elicited and minor changes made prior to its use.

3. A standardised protocol was used to ensure consistency across sessions. Specific strategies for questioning behaviour were identified from the evidence-based Calgary-Cambridge model of communication skills¹¹. Cognitive-behavioural techniques (e.g. Socratic questioning i.e. “*could you explain that further?*”)⁹ were used to encourage behaviour and attitude change throughout both sessions. Session I covered the rationale for training, information and discussion about effective communication behaviours, demonstrations of specific behaviours and their consequences. In the second session, participants reflected on any change in attitudes or use of new communication behaviours, and were asked for examples of this, and how easy/difficult it had been for them to change. Participants then worked in pairs through various audiotaped “real-life” consultations, assessing the

communication skills used in each and making suggestions as to how specific aspects of communication in each scenario could be done more effectively. The trainers provided specific feedback and support. Participants were encouraged throughout to assess their own performance in order to develop self-assessment skills which they could then use to reflect on their behaviour in real-life consultations.

4. Each session was provided at two venues, Aberdeen and Elgin, to increase the likelihood of attendance by participants from remote areas. Each session was designed for up to 12 participants. MCAs were given the option of choosing either two daytime or two evening sessions. The training was delivered by Dr J. Cleland, Lead for Clinical Communication, School of Medicine, University of Aberdeen.

5. The first training session (I) was held in Aberdeen on August 30th and in Elgin on September 1st, 2005. The second training event (II) was held in Aberdeen on October 4th and in Elgin on October 6th, 2005.

Greater detail about the content of the intervention and its theoretical basis are provided elsewhere ¹².

Outcome measures

Assessment of consultation content using simulated patients

Seven simulated patients were trained to make covert visits to participating MCAs. Six of these “patients” were from the University of Aberdeen School of Medicine Simulated Patient Programme. The remaining “patient” was a mystery shopper with experience in market research. Two visits were made to each MCA at Baseline, then one in each month following the first and second training events (i.e. Follow-up I and Follow-up II). The simulated patients audiotaped their consultations (using digital and tape recorders) and completed a data collection form immediately after each visit. Four scenarios were developed for use during these visits, two of which were product requests, and two were advice-seeking consultations. Each MCA was scheduled to receive one product and one advice scenario at Baseline, and the same scenarios at Follow-up.

Each consultation was coded independently by two raters (academic pharmacists) to determine the number and type of questions used, and to assess compliance with the Royal Pharmaceutical Society of Great Britain (RPSGB) guidelines¹³. The results of the coding process were used to derive the outcome measures used in this study.

Pre- and post-training comparisons were made for the following main outcome measures:

- the proportion of open questions;
- whether questioning was consistent with the guideline called WHHAM^{14,15} (a mnemonic for MCAs) was used (Figure 1);
- whether the consultations complied with the RPSGB guidelines for the supply of pharmacy medicines (Figure 1);

Theory of Planned Behaviour Questionnaire

A questionnaire was developed using the Theory of Planned Behaviour⁷. The questionnaire assessed cognitions about two behaviours: finding out the customer’s symptoms during product consultations; and finding out the customer’s other medication use during advice-seeking consultations. Self-efficacy¹⁶ was also assessed. The questionnaire was administered

at three time points: Baseline i.e. one month before training (TPB1); and, one month after the first (TPB2) and second (TPB3) training events, respectively. Two versions of TPB2 and 3 were prepared: one was sent to the control group and the other version, which differed only by including questions about the training events, was sent to intervention group participants.

Statistical Analyses

No sample size calculation was undertaken as this was a feasibility study. Descriptive statistics were used to report the data. Imputation of median values (for all subjects) was used for missing data with the TPB components of the questionnaire. Cronbach's alpha was used to assess the internal consistency of items in each of the TPB variables. Inter-rater agreement for categorical variables was assessed using Kappa. Inter-rater agreement of the number of open, closed and total questions was assessed using the Spearman coefficient. All analyses were undertaken using SPSS for Windows (release version 13.0) software package. The results are presented on an intention-to-treat basis. Data were not adjusted for clustering by pharmacy.

Results

Recruitment of Pharmacies and Medicine Counter Assistants

Of the 20 pharmacies and 30 MCAs originally recruited and randomised, 16 pharmacies and 25 MCAs completed the study (Figure 2). Eight pharmacies were located in towns, and four pharmacies each were in rural and city locations. Most pharmacies were independent single outlets or small chains.

Training Events

The first and second training events were attended by 15 and 11 MCAs respectively. Three MCAs reported (in the TPB questionnaire) that they were unable to attend a training event due to staff shortages in their pharmacy (i.e. one MCA at event I and two MCAs at event II).

Simulated Patients

In total, 93 (89.4%) of the 104 scheduled visits were completed. Members of the research team completed two of these visits, as none of the simulated patients was able to complete them (due to the target MCA being absent during repeated visits and other simulated patients could not be substituted as they either had visited or were scheduled to visit the same MCA during a different visit cycle).

Simulated patient audio-taped consultations

Of the 93 simulated patient visits, audible recordings were available for 72 (77.4%). One rater (the research assistant) was not blind to the identity of the MCA, pharmacy or group allocation when rating most of the consultations. However, the second rater performed blinded coding for 75% of consultations. The main results for this study were derived from the simulated patient data and are presented in Table 1.

Effect Of Training On Communication

None of the differences between the groups for the main outcomes (for all consultations) reached statistical significance.

Number of Questions Asked

As few consultations involved the use of open questions, the use of this outcome measure was limited. Therefore, the "total number of questions asked" was used as an additional

outcome measure to explore the effect of training. The total number of questions asked increased in intervention pharmacies at both time points compared with Baseline, with most questions being asked at Follow-up II. No change was shown with the control group between Baseline and Follow-up I, and a decrease was shown in the total number of questions from Follow-up I to II.

WWHAM

Significant agreement ($p < 0.001$) was shown between the raters for all WWHAM components. The Total WWHAM Score increased in the intervention group but not in the control group, for all consultations. The Total WWHAM Score increased for consultations involving product requests, between Baseline and Follow-up I and II.

Effect of Scenario Type (and Individual WWHAM Questions)

The effect of training was explored according to scenario type i.e. product or advice request (Table 2). The intervention appeared to have greater effect on advice request consultations compared with product requests, in terms of the total number of questions asked and the Total WWHAM Score (Table 2). During training, participants were encouraged to ask about other medication taken and a description of symptoms. The effect of training on these outcomes produced mixed results, with a trend to improved behaviour with product requests and “other medication taken”.

Compliance with RPSGB Guidelines

Only 18% ($n=7$) of consultations were deemed guideline compliant at Baseline. The low incidence of guideline compliant consultations continued at both follow-up periods.

Theory of Planned Behaviour Results

The response rates for the questionnaire were 81% ($n=21$), 76% ($n=19$) and 56% ($n=14$) at Baseline, Follow-up I and Follow-up II, respectively. Higher response rates were achieved with the intervention group at all time points compared with the control group.

Due to a typographical error in the questionnaire, no attitude scores could be calculated for the advice-request scenario with either Follow-up survey. Scores on the TPB variables were very low (reflecting negative attitudes and low intentions) and remained low at all three measurement points in this study (Table 3).

Normally, a TPB analysis would include a multiple regression analysis to predict intention scores. Because of the small sample size it was not appropriate to conduct such an analysis. However, bivariate correlations give an estimate of the TPB variables most closely related to intention scores. Despite the small sample size, some of these correlations reached significance. In particular, the relationship between perceived behavioural control and intention in the product request situation was consistently high across the three time points in the intervention group (range of r : 0.56 to 0.86), confirming the proposed link between these two variables.

Discussion

The results of this study confirm the feasibility of providing communication skills training to MCAs and indicated that particular benefit was derived in terms of the extent of questioning during advice consultations.

Strengths and Limitations

This feasibility study employed an intervention comprising several behaviour change techniques to improve the communication skills of MCAs. A wide range of pharmacies

participated, thus increasing the generalisability of the results. The outcomes, communication performance and information exchange between MCA and customer, were measured *in situ* by means of recorded simulated patient visits, thus providing outcome measures with good validity.

The construction of the intervention and evaluation of the processes underlying change were influenced by the Theory of Planned Behaviour. Using theory to build interventions is argued to enhance the replicability and generalisability of interventions¹⁷. Measurement of the TPB variables at three time points in this study enabled the assessment of changes in cognitions, and of the relationships between them, before and after the two training sessions.

The intervention was delivered according to a clear protocol by a clinical psychologist experienced in designing and delivering communication skills training. Thus, the study had several strengths.

Recruitment of pharmacies and MCAs was more problematic than anticipated and may have been due to research fatigue (i.e. competition with other studies), or because MCAs were given the option of attending training during the evening or in daytime. The former was unattractive to MCAs as it encroached on their personal time, while the latter was unattractive to pharmacists as it meant they would be under-staffed. Further consideration is needed regarding methods of enhancing and maintaining participation in training initiatives. In Scotland, pharmacy contractors are now able to claim up to £750 for staff training purposes annually, which might help to address this issue in future¹⁸.

General Findings

Simulated Patient-derived Findings

The results of this feasibility study suggest that the communication skills intervention increased the amount of questioning undertaken by MCAs during consultations for NPMs, particularly for consultations associated with advice requests compared with direct product requests. The use of WWHAM also appeared to increase in the intervention group compared with control. It has been assumed for the purpose of this study, that if WWHAM items were asked that this was due to the staff member's knowledge of WWHAM, as opposed to merely asking the question.

However, despite emphasising the importance of open questions during training, few consultations involved the use of open questions at any point during the study, with either group. Failure to use open questions has previously been identified as a problem¹⁹, particularly with product requests. In general, the effects of the training in this current study were less pronounced with product requests compared with non-product (advice) requests. Difficulties with product requests have also been shown previously²⁰. Customer resistance to questioning has been reported to be greater with product requests^{20,21} and this may be due to consumers perceiving these consultations to be a retail activity, as opposed to non-product consultations, where they are seeking healthcare advice.

It has been shown that patient counselling increases knowledge about NPMs, but may not result in more appropriate use of the medicines²². Few consultations were deemed compliant with the RPSGB guidelines for the supply of pharmacy medicines, and no apparent improvement was shown as a result of training.

Currently, communication skills training for MCAs needs firstly to focus upon information gathering behaviour, through the use of questioning. However, further skills to be developed include how the elicited information is then used to inform the decision making process during the consultation. There is evidence that consultations that are more patient-centred

result in greater patient satisfaction ²³. Whilst making consultations for NPMs more patient-centred could be considered to be a goal of a communication skills training intervention, the training developed and assessed in this current study focussed on more basic communication behaviours.

Mean scores on the TPB variables were low. That is, MCAs had negative attitudes towards seeking information from customers, did not feel social pressure to increase information-seeking behaviour, had low confidence in their capacity and low intentions for this behaviour. These findings are consistent with their low observed rate of questioning behaviour and suggests that the TPB could provide useful 'proxy' measures of behaviour when the expense associated with the use of simulated patients is prohibitive.

Experience from communication skills training for medical professionals has demonstrated that whilst practising skills with simulated patients is helpful, these skills are not necessarily transferred to clinical practice ²⁴. The use of feedback on real consultations has been suggested as a more effective way of changing communication behaviour and enhancing skills ²⁴. Immediate feedback is a method that has been used previously in community pharmacy as a method of reducing inappropriate NPM use ²⁵. It is a method that should be considered in future to enhance the positive effects of communication skills training as demonstrated in this current study.

Conclusions

Communication skills training for MCAs increased information exchange during consultations for NPMs. However, communication skills did not enhance communication performance in terms of guideline compliant behaviour. This could be addressed using an adapted intervention, for example, the incorporation of immediate feedback and/or the inclusion of a third training session to focus on guideline compliance. A substantive randomised controlled trial is now planned to assess the intervention.

References

1. Ferris D, Nyirjesy P, Sobel J, Soper D, Pavletic A, Litaker M. Over-the-counter antifungal drug misuse associated with patient-diagnosed vulvovaginal candidiasis. *Obstetrics and Gynaecology* 2002;99(3):419-24.
2. Watson MC, Bond CM, Grimshaw JM, Mollison J, Ludbrook A, Walker A. Educational Strategies To Promote Evidence-Based Community Pharmacy Practice: A Cluster Randomised Controlled Trial (RCT). *Family Practice* 2002;19:529-36.
3. Anonymous. Can your pharmacist cope? *Which?* 2004;(February):10-3.
4. Watson MC, Bond CM. The evidence based supply of non-prescription medicines: barriers and beliefs. *IJPP* 2004;12(June):65-72.
5. Watson M, Bond CM, Grimshaw JM, Johnston M. Factors predicting the guideline compliant supply (or non-supply) of non-prescription medicines in the community pharmacy setting. *QSHC* 2006;15:53-7.
6. Clark NM, Gong M. Management of chronic disease by practitioners and patients: are we teaching the wrong things. *BMJ* 2000;320:572-5.
7. Ajzen I. The theory of planned behaviour. *Organizational Behaviour and Human Decision Process* 1991;50:179-211.
8. Walker AE, Grimshaw JM, Armstrong EM. Salient beliefs and intentions to prescribe antibiotics for patients with a sore throat. *British Journal of Health Psychology* 2001;6:347-60.
9. Beck A. *Cognitive therapy and the emotional disorders*. New York: International Universities Press; 1976.
10. Watson MC, Bond CM, Johnston M, Mearns K. Human Error Theory: A novel approach to developing strategies to improve the evidence based supply of nonprescription medicines. *Conference Proceedings Health Services Research and Pharmacy Practice Conference* 2004.

11. Avery AJ, Heron T. Poles apart? The views of general practitioners and family health services authority advisers on prescribing cost issues. *British Journal of General Practice* 1997;47:347-51.
12. Cleland J, Francis J, Watson M, Inch J, Bond C. Using theory to improve communication: designing a communication skills training package for medicine counter assistants. *IJPP (in press)*.
13. Royal Pharmaceutical Society of Great Britain. Medicines, Ethics and Practice. London: RPSGB; 2005. Report No: 29.
14. Sharpe S, Norris G, Ibbitt M, Staton T, Riley J. Protocols: Getting Started. *Pharmaceutical Journal* 1994;253:804-5.
15. NPA launches training with a W-WHAM. *Pharmaceutical Journal* 1989;243(July 8th):40.
16. Bandura A. *Self-efficacy: The exercise of control*. New York, US: Freeman; 1997.
17. The Improved Clinical Effectiveness through Behavioural Research Group (ICEBeRG). Designing theoretically-informed implementation interventions. *Implementation Science* 2006;1(4).
18. Anonymous. Staff training in Scotland. *Pharmaceutical Journal* 2006;277(7413):183-.
19. Berger K, Eickhoff C, Schulz M. Counselling quality in community pharmacies: implementation of the pseudo customer methodology in Germany. *J Clin Pharm Ther* 2005;30:45-57.
20. Seston E, Nicolson M, Hassell K, Cantrill J, Noyce P. "Not just someone stood behind the counter": The views and experiences of medicines counter assistants. *Journal of Social and Administrative Pharmacy* 2001;18(4):122-8.
21. Bissell P, Ward P, Noyce P. Appropriateness measurement: application to advice-giving in community pharmacies. *Social Science and Medicine* 2000;51:343-59.

22. Rantucci MJ, Segal HJ. Over-the-counter medication. *J Soc Admin Pharm* 1986;3(3):81-91.
23. Lewin SA, Skea ZC, Entwistle V, Zwarenstein M, Dick J. . The Cochrane Library [serial online] 2004 (3).
24. Maguire P, Pitceathly C. Key communication skills and how to acquire them. *BMJ* 2002;325:697-700.
25. Neto A, Benrimoj S, Gomel M, Fois R. Inappropriate self-medication practices: a pharmacy-based intervention. *Journal of Social and Administrative Pharmacy* 1996;13(3):131-8.

Figure 1 Professional and Good Practice Guidelines for the Supply of Nonprescription Medicines

WWHAM^{14, 15}

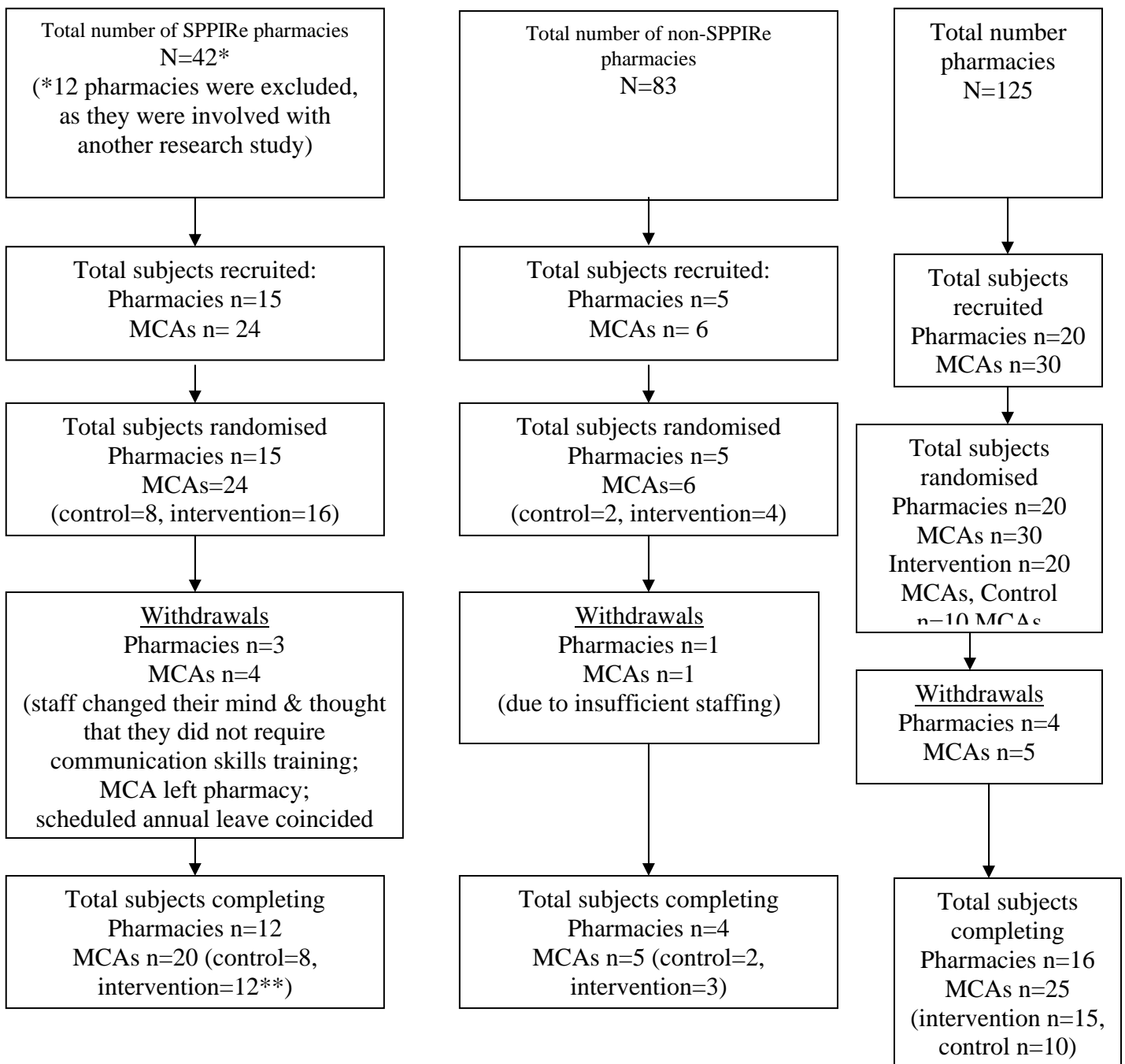
- **Who** is it for?
- **What** are the symptoms?
- **How** long have the symptoms been present?
- **Any** other medication tried already?
- other **Medication** being used currently?

RPSGB Guidelines¹³

- a. Pharmacists or assistants asked for advice must obtain sufficient information
- b. Pharmacists must ensure that product requests include provision of professional advice and intervention ..
- c. Pharmacists must be personally involved whenever necessary ..
- d. Procedures must ensure that particular care needed when supplying products for specific groups e.g. children, the elderly etc.
- e. Pharmacists must ensure that they are involved in the decision when necessary e.g. medicines that are subject to abuse or misuse.

Source: Medicines, Ethics and Practice. RPSGB, 2005.

Figure 2 Consort Diagram



** One MCA attended neither of the training events due to staff shortages. A second MCA from the same pharmacy attended only one training event due to staff shortages.
Two MCAs (from the same pharmacy) attended one training event only, due to staff shortages.

Table 1 Outcome measures at Baseline, follow-up (I) and follow-up (II)(consultation level)

Outcome measure	Trial Group	n	Baseline	n	Follow-up (I)	n	Follow-up (II)
Median proportion of open questions (%) [IQR]	Intervention	20	0.0 [0.0 to 0.0]	10	0.0 [0.0 to 18.1]	9	0.0 [0 to 22.5]
	Control	17	0.0 [0.0 to 22.5]	7	0.0 [0.0 to 25.0]	7	0.0 [0 to 20.0]
Median total number of questions [IQR]	Intervention	21	3.00 [2.00 to 5.00]	10	3.50 [2.00 to 6.50]	9	5.00 [3.00 to 8.00]
	Control	17	4.00 [2.50 to 5.00]	7	4.00 [3.00 to 5.00]	7	3.00 [2.00 to 5.00]
Median total WWHAM score [IQR]	Intervention	21	2.00 [2.00 to 3.50]	10	3.00 [2.00 to 4.00]	9	3.00 [3.00 to 3.50]
	Control	17	3.00 [2.00 to 3.50]	7	3.00 [2.00 to 3.00]	7	2.00 [1.00 to 4.00]
Compliance with RPSGB guidelines % (n)	Intervention	22	27.3 (6)	10	30 (3)	9	44.4 (4)
	Control	17	5.9 (1)	7	0	7	28.6 (2)

IQR Inter-quartile range n number of consultations

Table 2 Effect of scenario type on use of specific WWHAM questions

Outcome measure	Trial Group	n	Baseline % (n)	n	Follow-up (I) % (n)	n	Follow-up (II) % (n)
All consultations							
Whether any other medication was being used?	Intervention	21	33.3 (7)	10	80.0 (8)	9	77.8 (7)
	Control	17	58.8 (10)	7	57.1 (4)	7	42.9 (3)
What were the character's symptoms?	Intervention	21	71.4 (15)	10	90.0 (9)	9	88.9 (8)
	Control	17	88.2 (15)	7	85.7 (6)	7	71.4 (5)
Product consultations							
Whether any other medication was being used?	Intervention	9	33.3 (3)	5	80.0 (4)	5	100.0 (5)
	Control	9	33.3 (3)	4	75.0 (3)	4	25.0 (1)
What were the character's symptoms?	Intervention	9	44.4 (4)	5	80.0 (4)	5	100.0 (5)
	Control	9	88.9 (8)	4	100.0 (4)	4	50.0 (2)
Advice consultations							
Whether any other medication was being used?	Intervention	12	33.3 (4)	5	80.0 (4)	4	50.0 (2)
	Control	8	87.5 (7)	3	33.3 (1)	3	66.7 (2)
What were the character's symptoms?	Intervention	12	91.7 (11)	5	100.0 (5)	4	75.0 (3)
	Control	8	87.5 (7)	3	66.7 (2)	3	100.0 (3)

Table 3 Theory of Planned Behaviour Components: Median [IQR]

Trial Group	Time	Attitude	Perceived Behavioural Control	Subjective Norm	Intention
Finding out customers' other symptoms					
Intervention	Baseline	1.13 [1.13 to 1.47]	2.00 [1.33 to 2.67]	18.50 [9.25 to 34.25]	1.75 [1.00 to 2.38]
Control	Baseline	1.00 [1.00 to 1.75]	2.33 [1.17 to 2.50]	17.00 [5.00 to 40.00]	1.00 [1.00 to 1.25]
Intervention	Follow-up I	1.50 [1.25 to 2.19]	2.33 [2.00 to 2.92]	18.50 [11.50 to 25.25]	1.50 [1.50 to 2.00]
Control	Follow-up I	1.50 [1.00 to 2.75]	2.33 [1.50 to 3.33]	10.00 [8.00 to 30.50]	1.50 [1.00 to 3.00]
Intervention	Follow-up II	1.50 [1.50 to 1.94]	2.33 [1.75 to 2.33]	19.00 [16.25 to 20.50]	2.00 [1.50 to 2.00]
Control	Follow-up II	1.50 [1.00 to 2.25]	2.33 [2.00 to 3.50]	20.0 [14.5 to 25.0]	2.00 [1.50 to 2.75]
Finding out what other medications are being used					
Intervention	Baseline	1.00 [1.00 to 1.25]	1.50 [1.50 to 2.00]	18.00 [9.75 to 32.75]	1.33 [1.00 to 3.50]
Control	Baseline	1.00 [1.00 to 1.75]	1.50 [1.25 to 2.50]	19.00 [3.00 to 54.00]	1.00 [1.00 to 2.67]
Intervention	Follow-up I	#	2.50 [1.63 to 3.00]	15.50 [10.25 to 30.50]	1.25 [1.00 to 2.00]
Control	Follow-up I	#	2.00 [1.50 to 2.50]	15.00 [14.00 to 28.50]	1.17 [1.00 to 2.00]
Intervention	Follow-up II	#	2.50 [2.00 to 2.50]	21.50 [21.5 to 26.00]	2.00 [1.00 to 2.00]
Control	Follow-up II	#	2.50 [1.75 to 4.75]	27.00 [20.75 to 40.50]	2.00 [1.83 to 2.67]

For all variables, Control N=9 and Intervention N=16. Possible ranges: Attitude, 1-7 ; Perceived behavioural control, 1-7; Subjective norm, 3-147; Intention, 1-7. Higher scores reflect more positive attitudes, stronger positive intentions, etc). # = Data unavailable due to incorrect question phrasing.