

Assessing communication skills of clinical call handlers working at an out-of-hours centre: development of the RICE rating scale

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ABSTRACT

Background

Out-of-hours centres provide telephone support to patients with medical problems. In most of these centres specially-trained nurses handle incoming telephone calls. They assess patients' needs, the degree of urgency, and determine the level of care required. Assessment of the medical problem and the quality of 'care-by-phone' depend on the medical and communication skills of the call handlers.

Aim

To develop a valid, reliable, and practical rating scale to evaluate the communication skills of call handlers working at an out-of-hours centre and to improve quality of communication.

Design of study

Qualitative study with focus groups followed by validation of the rating scale and measurement of reliability (internal consistency).

Setting

Out-of-hours centres in the Netherlands.

Method

A focus group developed the rating scale. Experts with experience in training and evaluating communication skills of medical students and GPs commented on the scale to ensure content validity. The reliability of the rating scale was tested in a pilot in which ten specially-trained assessors scored six telephone calls each.

Results

The scale, known as the RICE rating scale, has 17 items divided over four different phases of the telephone consultation: Reason for calling; Information gathering; Conclusion; and Evaluation (RICE). Content validity of the scale was assessed by two experts. Reliability of the scale tested in the pilot was 0.73 (Cronbach's α).

Conclusion

Establishing a rating scale to assess the communication skills of call handlers which meets common scientific demands, such as content validity and reliability, proved successful. This instrument can be used to give feedback to call handlers.

Keywords

after-hours; care; communication; quality assessment; telephone consultation.

INTRODUCTION

In many parts of the world out-of-hour medical call centres provide support to patients who call for medical advice (for example, in the US, UK, Denmark, Netherlands, Australia). Call handlers at call centres are usually registered nurses who triage the medical problem. Triage by telephone implies that the call handler assesses the degree of urgency of the patients' needs, and offers advice to the patient about the care that is required.

There is evidence that good communication skills between doctors and patients during face-to-face consultations have a positive effect on patient outcome.¹⁻⁵ Good communication skills during 'care-by-phone' is of high importance.^{2,6-10} Call handlers are confronted with a mix of undifferentiated clinical needs and they have to establish rapport quickly with usually unknown patients. Good communication skills are needed because of high medico-legal risk associated with providing telephone advice and limited resources at out-of-hours centres. In addition, call handlers can only identify some auditory clues and are unable to pick up on visual cues from callers.^{7,11-13}

Current instruments for assessing communication skills of primary care providers, nurses, and doctors during surgery hours are unlikely to be applicable to telephone consultations

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due to the absence of visual cues.¹⁴

To become competent, call handlers should be specially trained in communication skills for telephone consultation. Research suggests that assessment of performance in real practice is needed to guarantee quality of care.¹⁵⁻¹⁷

To assess the quality of care provided by call handlers, the investigators searched for a suitable instrument. The literature search was conducted using the keywords: 'communication', 'telephone', 'assessment', 'quality', 'scoring', and 'after-hours care' (PubMed, Medline, PsycARTICLES, Cochrane database). No instrument was identified from the literature. Therefore, the aim of the study was to develop a valid, reliable, and practical instrument to assess the communication skills of call handlers working at out-of-hours centres. The study took place in the Netherlands which has over 100 of these centres with more than 2500 active call handlers in operation.

METHOD

Content validity

To enhance content validity of the proposed instrument, a focus group was formed. The group comprised eight individuals representing the four stakeholder groups involved in telephone calls to an out-of-hours centre: patients, call handlers, doctors, and the management team. Patients were members of patient groups; call handlers worked at out-of-hours call centres as supervisors or call handlers; GPs worked at out-of-hours centres and were involved in ensuring quality of care; and members of the management team were involved with general issues of management at out-of-hours centres. Each stakeholder group was represented by two members of each group with experience in communication and/or working at an out-of-hours centre.

Meetings were led by a neutral moderator who followed focus group protocols.¹⁸ The focus group met twice over a period of 4 weeks. During these meetings, lasting 3 hours each, items for the rating scale were identified.

At the start of the first meeting each member was asked to comment on the following statement: 'A telephone consultation by a call handler needs to follow a recognisable structure'.¹⁹ After reaching agreement on this statement, each member was asked to write down such a structure. Individual proposals were collected and presented to the group.

In the group discussion that followed, consensus was reached on the structure of telephone conversations in which four essential phases were identified as essential: Reason for calling;

Information gathering; Conclusion; and Evaluation (leading to use of the acronym 'RICE' to denote the four phases). A period of interruption was identified as another important, although not essential, component of telephone communication. During a period of interruption the call handler puts the caller on hold to discuss the problem with a colleague or to study guidelines.

During the first meeting members also wrote down what they each considered to be required communication skills of the call handler during the four phases and the period of interruption. Their suggestions were collected, presented, and discussed until a consensus was obtained. Each required skill was expressed as an item. To assess the skill level of call handlers, the group decided to use a five-point Likert scale ranging from 0 (skill is absent) to 4 (good).

Finally, the group discussed who should assess the performance of a call handler. Members agreed that this should be handled by a peer colleague call handler. Before the second meeting all members received by mail the rating scale with the 17 items they agreed on during the first meeting. A manual was also supplied which provided descriptions of each item and specified how to rate call handlers using the Likert scale. During the second meeting the group decided which item, each representing a required skill, should be present during more than one phase (for example, making a summary, or listening attentively during most phases). The descriptions of items in the manual were changed or adjusted where needed.

For further content validation the rating scale was presented to two communication skills experts. They were given the descriptions of the items and asked whether they agreed with structuring a telephone consultation according to the four phases, and if items could be omitted or added.

Reliability

To determine the reliability (internal consistency) of the rating scale, a pilot was performed in which 10

How this fits in

Call handlers at out-of-hours centres need excellent skills in telephone communication. An instrument to assess those skills was unavailable. This paper describes the development of an instrument, the RICE rating scale, for assessing the communication skills of call handlers at an out-of-hours centre.

participants received special training and assessed six actual telephone calls using the rating scale. One of the participants was a member of the focus group. All participants were nurses experienced in call handling. Before training, participants received the manual and the rating scale to be studied at home. Training was led by a teacher with experience in teaching communication skills to medical students. During training the group discussed the items on the scale and in the manual to make sure that they understood the meaning of the items and the method of rating. Each participant assessed two specially designed simulated telephone calls presenting a medical problem. Then the teacher and participants compared and discussed their scoring. At the end of the training participants felt confident to handle the scale themselves.

After training, each participant received an audio tape with six (anonymised) actual conversations recorded at an (anonymised) out-of-hours centre. All personal data of the call handler and the patient were removed from the tape and this removal was checked by the manager of the centre.

Inclusion criteria for these six calls were that each call should be:

- Understandable: the voice of the call handler and the caller needed to be clearly audible.
- Complete: the call should not be terminated suddenly, and should last no longer than 10 minutes.
- Concerning a defined medical problem: the call should be about a medical problem that is commonly presented at an out-of-hours centre.

Assessments by participants involved listening to the audio tape of six conversations between callers and call handlers. Participants rated calls using the rating scale which was done at home. They recorded the time they needed to complete the scale for each call and the frequency of listening to the same call (completely or partly).

Practical applicability

A second meeting was held with the participants to discuss their experiences and the results of their assessments. The 10 participants were asked whether items should be omitted or added and if items should be rephrased for better understanding or use.

RESULTS

Content validity

The focus group agreed on the rating scale as made during the first meeting with a total of 17 items (rating scale items and the manual can be freely obtained at:

Table 1. Means and standard deviations for the 17 items of the rating scale.

	<i>n</i>	Mean	SD
Item 1	60	2.75	1.525
Item 2	60	1.65	1.055
Item 3	60	0.73	1.023
Item 4	60	2.28	1.519
Item 5	60	2.57	1.155
Item 6	60	1.90	0.877
Item 7	50	1.72	1.356
Item 8	30	1.33	7.110
Item 9	60	1.45	1.710
Item 10	40	1.33	0.829
Item 11	60	1.68	0.813
Item 12	30	2.33	0.802
Item 13	30	1.90	0.712
Item 14	60	1.23	1.280
Item 15	60	1.90	1.100
Item 16	60	1.38	1.151
Item 17	60	2.18	0.983
Valid <i>n</i> (listwise)	20		

www.medicinfo.info). The 17 items were divided over four obligatory phases and one intermediate period. The four phases should be present during each telephone consultation and the interruption period is optional. During the second meeting no item was added or removed. The group agreed on the description of these ratings in the manual.

The two communication skills experts agreed with the consensus reached and considered the scale to be complete and valid. Their suggestions for rephrasing some items on the scale were incorporated in the rating scale. No item was removed or added.

Reliability

To calculate the results of all ratings in the pilot with 10 participants assessing six calls each, descriptive statistics were used. Cronbach's α was calculated as a measure of internal consistency using SPSS (version 11). Reliability (internal consistency) of the rating scale was 0.73 (Cronbach's α). Means and standard deviations for the 60 assessments are shown in Table 1.

Practical applicability

To assess a call adequately a mean of 20 minutes (range 16–21 minutes) was needed, and all calls needed to be heard twice. Suggestions from participants about rephrasing some items of the scale were incorporated. The two training sessions with the participants lasted a total of 5 hours.

DISCUSSION

Summary of main findings

There is increasing recognition of the need for a valid, reliable assessment tool to support training and professional development in telephone communication skills. The current researchers developed a tool which has high content validity and reliability. Results of this pilot study indicate that the tool is suitable for use in healthcare settings, such as out-of-hours centres.

Comparison with existing literature

Although it was assumed at the start of this project that instruments to assess communication skills of primary care workers for telephone consultation were not applicable, an existing validated instrument used in the Netherlands and two other validated instruments, all developed to assess communication skills of doctors, were investigated.^{3,14,17} Although the structure of a face-to-face consultation could be similar to a telephone consultation, specific communication skills are needed, mainly to compensate for the absence of visual contact. The existing instruments do not highlight those specific communication skills and behaviour as required for call handlers, and do not take into account that the call handler is not a doctor. They also do not provide guidance on structuring a telephone consultation.^{3,14,17}

Strengths and limitations of the study

During the focus group it was noted that each of the four stakeholder groups provided specific input. Patients in the focus group generated items concerning the way call handlers involve patients in solving their medical problems. Doctors developed items concerning the way the call handler takes the medical history of the patient. Call handlers devised items concerning the way the call handler learns to structure the telephone consultation and takes the lead in the conversation while remaining friendly, attentive, and empathic. The management team helped to produce items concerning the way a call handler handles a call within a restricted period of time, and emphasised the satisfaction of the caller.

More participants in the focus group could have influenced the composition of the scale, although it was noticed there was a redundancy effect during discussions between participants. The views of the experts confirmed this.

The researchers examined ways to improve the internal consistency ($\alpha = 0.73$) of the instrument but a gain in reliability may have limited the validity of the instrument: for example, leaving out item 8 (which discusses the safety net) would give a higher α value. At the development stage, the decision

was made to retain this item as all participants of the focus group felt it was important that the caller knew when to call back.

The use of inclusion criteria when selecting the six phone calls for assessment enabled the selection to be as generalisable as possible. It is possible that different criteria, a higher number of phone calls, or including some vaguely presented problems could have influenced the reliability of the results, but it is not known whether this would have given a higher or lower figure. Table 1 shows that items 2 and 3 are often not asked by call handlers (item 2 asks after or names the medical problem and the way it is experienced; item 3 asks for or names the expectation and personal situation). By asking these questions call handlers demonstrate that they are not only interested in the medical part of a problem, but are also interested in the personal situation of the patient; this can be considered a patient-centred approach. These skills are required if a caller presents his or her problem vaguely at the beginning of the call. The manual explains that if the caller only shares very few details about their problem, the call handler should invite the caller to elaborate on this in a polite and professional way. Sometimes patients do not make it clear what their reason is for contacting the out-of-hours service, and in this instance the call handler should assist callers in explaining their reasons for calling.

The mean of 20 minutes for call assessment was deemed acceptable. It was discovered that this period shortened once participants became more experienced at making assessments.

Participants in the pilot considered the scale to be a practical instrument for assessing quality of communication skills of a peer call handler. They also noticed how much they learned about communication by making these observations.

Implications for future research

The instrument has been developed to assess the communication skills of call handlers at an out-of-hours centre in the Netherlands. It will be used in a research project which will assess additional indicators for quality of telephone triage at an out-of-hours centre. The research aims to examine the quality of assessments for urgent medical problems presented by standardised patients. The instrument is in use as an instruction guideline to train call handlers to learn good communication skills.

To conclude, the aim of developing a valid, reliable, and practical instrument to assess the communication skills of call handlers at an out-of-hours centre was achieved. The instrument can be applied by colleague call handlers after training as

an assessor to give call handlers feedback on their performance of handling telephone consultations with patients.

The instrument has been named the RICE rating scale. The acronym 'RICE' stands for the structure of telephone consultations according to the four successive phases: R: Reason for calling; I: Information to be gathered; C: Conclusion and care advice given; E: Evaluation of the call. As the period of interruption is not present in every telephone consultation, a character for this period is not included in this acronym. Remembering the word RICE helps the call handler to remember the sequence of the phases of a telephone call.

This instrument is now suitable for training and quality improvement of call handlers working at out-of-hours centres and can be used in real practice. The full text of the RICE manual and the RICE rating scale can be obtained freely at: www.medicinfo.info.

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Ethics committee

Not applicable

Competing interests

The authors have stated that there are none

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