Comparison of methods for generating quality of live items:
individual interviews versus focus groups

Background
Items of scales are sometimes derived from different sources and generated with different
methods but nothing is known about the advantages of one method over another.
The development of the OAKHQOL (OsteoArthritis Knee and Hip Quality of Life), a new knee
and hip osteoarthritis QoL instrument gave us the opportunity to explore and report the item
generation step.

Objectives:
To compare items obtained with there different methods
To analyze the contribution of there sources of speech in terms of sensitivity, specificity during
development of quality of life (QoL) items generation for a questionnaire, instrument using for
our demonstration is the OAKHQOL[*]

Material and methods
96 patients with hip or knee OA according to the ACR criteria were recruited to take part in
individual interviews and focus groups to elicit relevant verbal material.
Patients were recruited in 2 different areas of France and were recruited in Lorraine and in Paris,
respectively.
The interviewers did not have any knowledge of QoL or lower limb OA.

The 3 methods used and compared were:
- 32 patients' individual interviews using a cognitive interview technique to enhance memories
- 32 patients' individual interviews using semi-structured interviews
- 2 focus groups of patients were each composed of 16 persons.

The first was to interview patients using a cognitive technique based on memory retrieval,
knowledge representation and communication. Cognitive psychology assesses the cognitive
processes underlying how respondents comprehend and generate answers to self report questions.
This involves comprehension of the question, retrieval of information, use of heuristic and
decision processes to estimate an answer and formulate a response. The cognitive interview
technique aims at enhancing memory of the patients. The subject is asked to recall emotional and
environmental context, to report as many details as possible on what they perceived of the
situations, to recall situations at different moments and to adopt various perspective of narration.

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[*] Rat AC, Coste J, Pouchot J, Baumann M, Spitz E, Retel-Rude N, et al. Development of a new
specific instrument to measure quality of life in patients with knee and hip osteoarthritis
(OAKHQOL). J Clin epidemiol; in press.

The use of cognitive interviews during the items generation step had never been described before. They have been rarely used in health related questionnaires. In most cases the aim of cognitive interviews was to explore the content validity of instruments by exploring how well patients perceive and interpret questions and if the items adequately reflected their status.

The second source was semi-structured interviews with patients.
The researcher first suggests the topic and let the patient answer in the way he/she wishes, then the interviewer asks specific questions to gain more focused information.
An interview guide was elaborated with patients' exploratory unstructured interviews, health professionals' focus groups and individual interviews.
Content analysis of these preliminary interviews allowed for defining the themes and the large domain of QoL to explore.
The aim was to provide themes to explore systematically and a standardized list of open questions to resume the interview when necessary, on themes that were not spontaneously expressed.

The third source of verbal expression was focus groups of patients OA. In focus groups, participants provide mutual support in expressing feelings that are common to their group.
The interview guide was created with preliminary exploratory interviews.
Taking advantage of interpersonal communication they can highlight cultural values and shared common knowledge and experiences.
They can help people to explore and clarify their views and permit the expression of criticism. They are particularly suited to the study of attitudes and experiences and can explore how opinions are constructed within a given cultural context.
Individuals' interaction within group tends to produce insights that would not surface in individual interviews. The advantage is to obtain data rapidly and to make come to light specific themes, new ideas or wordings.

Analysis of the verbal material
3 teams of health psychologists and sociologists:
- transcripted interviews and analysed the content
- pooled verbatim by consensus in categories to form a list of 80 items which were not specific QoL.
A panel of experts (French Quality of Life in Rheumatology group, health psychologists and sociologists) selected QoL items about criteria:
- frequency (computation of the number of items of each source)
- pertinence (based on the pre-specified conceptual framework on the WHO definition of health and quality of life)
34 items (coping, satisfaction, locus of control) were excluded.
The psychometric properties of the remaining 46 QoL items were further tested in a sample of 263 OA patients, 3 items were removed because of their poor psychometric properties.

43 QoL items of the OAKHQOL questionnaire as a reference; it includes 40 items in 5 dimensions and 3 independent items
Results: table 1
74 percent of items emerged from patients' focus groups while patients' individual interviews provided 100% of all the items.

The specificity was only of 27% for patients' focus group.
The individual patients' interviews had a higher sensitivity (p<0.01) and a lower specificity than all the other methods (p<0.005).
Sensitivity and specificity of the patients' individual cognitive and semi-structured interview methods were not statistically different.
Patients' individual interviews provided all OAKHQOL items in all domains (sensitivity of 100% for all 5 domains)
Patients' focus groups had a sensitivity of 100% for pain items but a sensitivity of 81%, 69% and 67% for the physical activities, mental health, and social activities, respectively and a sensitivity of only 50% for social support items.

Results: table 2
The comparison of patients' cognitive interviews and patients semi-structured interviews showed that patients interviewed by a cognitive technique provided more frequently the items of social support than patients interviewed by semi-structured interviews (p<0.0001).
3 items of the dimension were significantly elicited differently between the 2 techniques were more frequently highlighted with the cognitive technique:
- talking about arthritis problems
- to feel others understand arthritis problems
- to feel support from people
The results were the opposite for physical activities domain (p<0.0001).
Significantly more patients interviewed with a semi-structured interview talked about:
- difficulties with stairs
- to get dressed
- difficulties staying a long time in the same position
- need help or a stick to walk.
For the other domains of the OAKHQOL, each technique elicited more frequently different items.
Semi-structured interviews often gave items:
- on the feeling of being embarrassed for people to be seen,
- to ask for help
- to annoy close relatives.
Cognitive interviews frequently provided items:
- on fears from future dependency,
- on the feeling to be older than one's age, perspective in life.

Discussion
The different sources of verbal material are not equivalent and clearly do not gave the same results.
Individual interviews provided a lot more QoL items than focus groups. In particular, social functioning and social support items were not frequently identified in focus groups.
We could have expected that focus groups highlight cultural and social values but social activities and relationships are also more intimate and dependent of social desirability.
Moreover, as expected, individual interviews generated more concrete and identifiable activities like dressing, bathing or having professional activities.

One advantage of focus groups is to reveal specific themes, new ideas or wordings because individuals interaction within group tends to produce insights that would not surface in individual interviews, but here no items was identified only by focus groups.

Patients chose aspects of QoL that reflected the positive aspects of life. The differences between them were more pronounced in the physical, psychological and activity domains than in the social domain. Patients generated more concrete and identifiable activities and have different expectations about treatment.

The comparison of patients' cognitive interviews and patients' semi-structured interviews showed that patients interviewed by a cognitive technique provided more fine tuned items on exchanges with and perception by others about their condition (social support domain), as well as perspective in life and fears from future dependency.

Semi-structured interviews contributed particularly to physical activity domain and to items on the feeling of being embarrassed for people to be seen, to ask for help and to annoy close relatives.

Perspectives
We suggest
1) formalizing and report the item generation step of the development of a new scale
2) reporting the methods of items' generation and the number of patients involved
3) using an association of different methods to generate items
4) using interviews of individual patients, the 2 techniques (cognitive interviews and semi-structured interviews) could be ideally combined because they are complementary and do not highlight the same themes.

Based the selected method on the pre-specified conceptual framework on the WHO definition of health and quality of life is dependant/relevant to the theoretical construct of QoL.

The question is then what is the part of the influence of the topic on the method to be retained ?
Further research is needed to confirm these results in other conditions and in other domains.