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GULiVER—travelling into the heart of good doctor–patient communication from a patient perspective: study protocol of an international multicentre study

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ABSTRACT

Background: The project GULiVer explores how lay people in Belgium (Gent), the Netherlands (Utrecht), the UK (Liverpool) and Italy (Verona) evaluate physicians' communicative skills. The aims are to present the study design and to assess the quality of collected data. **Methods:** In each centre one out of two sets of four videotaped consultations involving medical students with varying communication skills were shown to eight lay panels of six to nine participants each (*n*=259). The selection of lay participants was stratified by gender and age in order to obtain a heterogeneous sample. Background characteristics included socio-demographics, participants' general physical (COOP-WONCA) and mental health (GHQ), communication preferences (QUOTE-com) and trust in doctors (TMP). Participants were asked to give quantitative and qualitative evaluations of the student doctors' performance in a mixed-methods design. Quality assessment of the collected data and protocol adherence of the four centres was carried out by Generalized Linear Model (GLM). **Results:** The overall sample comprised 259 participants. Participants were equally distributed among the centres and balanced in terms of age, gender and OSCE scenario, confirming the quality of collected data. **Conclusion:** The study design and the applied procedures will ensure a great richness of data allowing a wider European perspective on lay persons' views, assessed both individually and through focus group discussion.

INTRODUCTION

Delivering a patient-centred consultation is regarded a core competence for doctors,[1–3] and medical schools in many countries have implemented communication skills training in the medical curriculum.[4–7] The content of these courses and examination programs is usually derived from psychological theories and determined by professionals (doctors, psychologists or nurses),[8,9] until now patients have been seldom involved in their development. Several studies show a low correlation between patients' and professionals'

quality assessments,[10–12] underlining the need for a more direct approach to tapping patients' views about the quality of doctor–patient communication. Various studies have been developed to reach this goal.

First, actors who play the patient role in training courses or examination programs are sometimes asked to take part in the quality assessment.[13] However, these simulated patients are instructed by the same expert–professionals who are running the courses, and whether their opinions really reflect the patient perspective is doubtful.[14]

A second way is by administering patient satisfaction questionnaires, right after the medical visit.[15–17] However, usually very high satisfaction rates are found,[18,19] which could be a reflection of a positive response bias[20,21] due to patients need to trust their doctors, feeling of dependency, and fear of repercussions.[22]

Finally, in some studies people from the general public are asked for their opinion of the quality of care, including the quality of doctor–patient communication.[23,24] However, as there is no standardized stimulus, it is difficult to compare these evaluations on the quality of health care,[25] and to determine to which concrete communication behaviour they refer to. We also do not know how transferable this knowledge is from the country where the study took place to other countries.

With these considerations in mind, we planned a large, international study in which a number of videotaped medical consultations, taken from the final Objective Structured Clinical Examinations (OSCE), were shown to lay panels in different European countries: Belgium, the Netherlands, the UK and Italy. The study should answer the following questions: is there a concordance between lay people and communication experts in the way they judge doctors' communicative performance? Which communicative elements of the doctors' performance are valued, depreciated or considered irrelevant from the lay persons' perspective? To what extent are their preferences and dislikes determined by their psychosocial and clinical characteristics? Which are the similarities and dissimilarities in communication preferences of lay persons with different nationalities?

This article, the first in a series of papers about this project, describes the research protocol and proposes the application of a mixed methods approach to explore patients' perspective on doctors' communicative performance in a multicentre study.

ETHICAL APPROVAL

The project was approved by the Medical Education Research Ethics Committee of the University of Liverpool. Informed consent of the participants was obtained in all three countries.

[FIGURE 1]

METHODS

The study design

The study draws its name (GULiVer) from the four centres involved in the study: **G**hent University (Belgium), **U**trecht University/NIVEL (the Netherlands), **Li**verpool University (UK) and the University of **Ver**ona (Italy).

Figure 1 illustrates the design of the study. In each centre, a set of eight videotaped Objective Structured Clinical Examination (OSCE) consultations were shown to eight lay panels of six to nine participants. The consultations refer to two different scenarios, varying in the quality of student doctor's communication from an expert perspective. Each scenario had four student interviewers of different communicative abilities, to give maximal variation in doctor–patient communication.

To reduce order effects in the presentation of the four videos, half of each of the groups who viewed either the Period Pain (PP) or Sexual Transmitted Disease (STD) scenario was presented with the video of the best performing student doctor first, while the other half of the group viewed the poorest performing student first.

Material: selection of videotaped OSCE consultations

The OSCE consultations were video recorded during the fourth year summative final undergraduate OSCEs at Liverpool Medical School, in a history taking station designed to test the quality of the medical students' interviewing skills. The patient role is played by an actress (simulated patient). The OSCE videos used for this study utilized two standardized gynaecological problems associated with high levels of emotional distress, which the student doctors had to handle in a 10-min consultation:

- scenario (STD): vaginal discharge related to unsafe sex with an unknown partner and a possible diagnosis of STD
- scenario Period Pain (PP): serious PP resulting in absenteeism from work making the patient anxious about losing her job.

The students' communication skills were rated by the simulated patient (SP) on a 10-point Likert scale (Global Simulated Patient Rating Scale, GSPRS), while the examiner assessed the quality of communication using a checklist, based on a list of pre-established expert defined abilities (Liverpool Communication Skills Assessment Scale, LCSAS).[26]

From the pool of available videos (n=166), four videos from each scenario were selected according to their GSPRS and LCSAS score to maximize the variability in the quality of communication (HH, HL, LH and LL videos according to whether they were assessed in the Higher or Lower quartile by the examiner and the SP respectively).

The videos were either dubbed (Italy) or subtitled in Dutch (the Netherlands and Belgium) to conform to the accepted practice of displaying English language television programs across countries.

Recruitment and selection of the participants

Participants were recruited from the general population. Recruitment took place in public areas, via calls in free local newspaper and by word of mouth. Inclusion criteria were age >18 years; at least one GP-visit over the last 12 months; speaking the country's language; not being involved in a medical lawsuit or formal complaint during the last 2 years.

The selection of participants was stratified by gender (separate male and female panels) and age (18–30; 31–49; >50 years) in order to ensure a heterogeneous distribution of the sample and comparable results. The participants received a financial compensation (€150), which was handed over after the completion of all tasks.

Measures and instruments

In all four countries the same procedures were followed. The participants had to carry out, individually or in group, six tasks, including both quantitative and qualitative evaluations. Their completion took one full day.

Preliminary stage: All participants were informed on the aims of the research; the structure of the meeting and the tasks; the relevant details regarding OSCE examinations, scenarios and examinees.

Task 1 (individual): Completion of questionnaires and rating scales covering three domains:

1. socio-demographic characteristics: age, gender, educational level, employment, marital status;
2. clinical characteristics: physical health (Functional Health Assessment Charts COOP-WONCA, item of general health, score range 1–5)[27]; mental health (General Health Questionnaire, GHQ-12, with score ≥3 suggesting the presence of a significant emotional distress)[28]; presence of chronic diseases (yes–no); medical service utilization of primary care (once a year, less than once a month, monthly, weekly, more than once a week); and secondary care in the preceding year (never, once, more than once);
3. attitudes: personal communication preferences (Quote-com, regarding 23 physician behaviours, score range 0 (not important) to 100 (extremely important),[29,30] and personal trust in health care (Trust in Medical Profession, TMP; total score range 11–55, from low to high trust).[31]

The questionnaires, when not available in the national language, were translated, using the usual forward–backward procedure.

Task 2 (individual): The four different videotapes of the same scenario were projected on a screen. After observing each videotape participants were asked to:

1. Assign a grade using the same 10-point Likert scale applied by the simulated patients (GSPRS) to assess the quality of each doctor's communicative performance in response to the question: 'How

satisfied were you as a member of the general public with the way in which this doctor communicated with the patient?'

2. Indicate on the provided transcripts of the interview the salient remarks made by the student doctor by marking them with a plus (+) when judged positively or with a minus (−) when judged negatively. These judgments could be completed by written comments.
3. Rank the four videos according to personal preference (GP ranking) answering the following questions: 'which doctor would you choose as your favorite GP?', 'which one as your less favorite?'; 'where would you put the other two?'

Task 3 (group): The participants were invited to discuss and to share their preferences and views on the student doctors' performance with the group.

Task 4 (individual): Participants were shown some video fragments from the set of four interviews (16 fragments, four fragments from each interview). In each of these selected fragments the simulated patient gave a cue or expressed a concern. The panel members were asked to observe the way the student–doctors reacted to such expressions and individually rate on a 1–10 scale the appropriateness of these reactions

Cues and concerns were identified by applying the 'Verona Coding Definitions of Emotional Sequences (VR-CoDES)'.[32]

Task 5 (group): The participants were asked to discuss and comment, in the focus group, on their ratings from task 4 about the appropriateness of the students' reactions to a patient's cue or concern, and to explain why their reactions were rated as appropriate or not.

Task 6 (group): Before concluding the participants were invited to formulate tips for doctors and patients to make the medical consultation more successful, drawing on their personal experiences and the focus group discussions.

All the group discussions were video and audio taped.

The feasibility of the procedures was tested with three pilot panels, in order to verify whether participants could easily understood all the tasks, fill in all the questionnaires, got involved and felt free to contribute to the focus groups discussion and, finally, could maintain an adequate level of attention and participation throughout the duration of the focus group. All participants gave a positive evaluation and expressed their satisfaction for the project; and everyone maintained a high level of interest toward the topics discussed during the focus groups. Therefore no substantial modifications were necessary and the pilot data were included in the data analysis.

Statistical analyses

The protocol adherence was checked applying a Generalized Linear Model (GLM) with Poisson family distribution and logarithm link function. A post hoc analysis of model residuals[33] on the whole sample tested the complete independence of the stratification variables (country, scenario, gender and age). The frequency distributions of the socio-demographic and clinical characteristics both among the four countries and the two scenarios were compared using Pearson chi-square test in the analysis of two-way contingency tables and Student's *t*-test or one-way ANOVA for continuous variables. Whenever a significant difference occurred, an adjusted residual analysis or post hoc Bonferroni multiple-comparison test, respectively, for categorical and continuous variables, was performed in order to evidence which subgroups showed a wider observed gap than expected.

[TABLE 1]

Data were analysed using Stata version 9.2.

RESULTS

The adherence to the research protocol

The overall sample comprised 259 participants, equally distributed across the centres and the stratification variables (table 1), as established by the study design and confirmed by the GLM [deviance=21.2 (df=40); *P*=0.99].

Sample background characteristics

The overall sample presents a satisfactory mixture of socio-demographic and clinical characteristics (table 2). There was a wide variation in use of health services, in accordance with what could be expected from the general population.

[TABLE 2]

Participants characteristics and scenario and country comparisons

The frequency distributions of the background characteristics of the participants showed no differences between the two scenarios except for the presence/absence of chronic disease ($\chi^2 = 21.7$ $P = 0.02$) and the level of trust (TMP score; $t = 3.21$ $P < 0.01$).

Significant differences among the countries (table 2) were observed for level of education ($\chi^2 = 23.4$, df = 6), occupational status ($\chi^2 = 58.24$, df = 12), presence of chronic disease ($\chi^2 = 31.3$, df = 3), general health status (COOP-E; $\chi^2 = 21.9$ df = 6), and service utilization (Hospital admission, $\chi^2 = 9.43$, df = 3; specialist visits, $\chi^2 = 11.7$, df = 3; GP visit, $\chi^2 = 16.0$, df = 6). Most of these observed differences seem due to the English and Belgian subsample. The post-hoc analyses showed that higher frequencies than expected (adjusted residuals cut-off 3.0) resulted in the English subsample specifically for the subgroups 'employed' (6.2), 'excellent COOP-E' (4.3), 'absence of specialist visits' (3.3), and in the Belgian group for 'chronic disease' (4.9). In the opposite direction lower values than expected were observed among the subgroups 'low education' (−3.9), 'student' (−3.4), '6–10 GP visits in a year' (−3.5) for the English sample and absence of hospital admission (−2.3) in the Belgian sample. An additional difference was observed in the Dutch sample, where the student subgroup was more represented than expected (3.2), while the employed subgroup was underrepresented (−5.1).

DISCUSSION

This study demonstrates the feasibility of involving lay people in research projects on the quality of care, using systematic procedures and a wide range of methods and measures.

Participants became immediately involved in the project, evidencing great interest in the evaluation of doctor's communicative ability. The low number of missing data together with the documented adherence to the study protocol confirms the good quality of the collected data. No substantial differences were found between participants background characteristics among the two scenarios. Accordingly, subsequent analyses will not need to take into account the scenario as a confounding variable.

Some relevant differences in the background characteristics of the UK and Belgium subsample were observed. Differences are probably due to the recruitment technique that could have led respectively to an over (UK) and under (Be) representation of people with higher socio-economic and health status. The same event could have occurred in the Dutch sample, where the employed subgroup seems underrepresented. Future data analysis will take into account the differences observed, adopting a multilevel approach, including country as an additional level of analysis.

The study design and the applied procedures offer several advantages for a better understanding of lay persons' view on healthcare communication issues. Lay people from four countries took part allowing a wider European perspective. This led to a large final sample of 35 focus groups, consisting of 259 individual participants. The recruitment criteria assured the desired variety of the samples in terms of psychosocial and clinical characteristics: the whole age range was presented, as well as people of different socio-economic status, educational level and health status. Both individual and group opinions were collected using quantitative as well as qualitative methods. This approach will allow investigators to study participants' opinions from multiple points of view to obtain a more comprehensive view of lay people perspective on doctor–patient communication issues. Moreover, the quality assessments from different participants in different countries are comparable, using the same methodology and presenting as stimuli standardized videos. Participants had the opportunity to judge the performance of student doctors with different communicative abilities, dealing with the same clinical scenario. Specific doctor behaviours could be observed, commented and assessed individually and through group discussion to provide a detailed and comparable picture of the views of the general public. The study design accounted for the confounding

variables age, gender and scenario and gave rise, together with the recruitment criteria, to a sufficient heterogeneity within each panel, and an elevated homogeneity (and consequently comparability) between them. Lastly, as lay people were not directly involved in the consultations, our participants were favourably placed to freely judge and to comment on the student doctors' communicative performance, while still representing a patient perspective. This position prevented the potential bias of social desirability and facilitated a realistic picture including both, positive and critical observations.

There are several limitations:

The 'doctors' in the videos were selected from a sample of fourth year undergraduate students. However, they were taking their final summative exam before graduation and thus were expected to deal with the patient as instructed. The exam setting itself could be criticized since videos from this setting do not necessarily resemble the natural variance observed in senior doctors' behavioural repertoire. However, the aim of this study was not to provide findings on the quality of care in the four countries, but to compare lay people's opinions on what they consider to be good quality of communication and to collect their rationales behind these assessments. For this aim, we needed to show the lay people the same set of videos. OSCE stations supply standardized and easily comparable doctor patient interactions and we believe that this advantage counterbalanced the limitations due to the simulated context. On the other hand, being stimuli for the focus group discussions, the videos were also starting point for a wider discussion of participants' own experience with their GPs.

Finally, both scenarios refer to gynaecological situations which could have hindered male panels in expressing their opinion. This limitation was overcome by having separate panels for males and females to minimize any potential embarrassment and advising the male participants on how to identify with the patient.

This research project aims to better understand what citizens expect and desire from their doctors. It will allow researchers to obtain new insights on the communication elements on which to build a truly patient-centred healthcare. Insights from this study will be particularly helpful for medical education, because they will provide information about which types of physician communication are equally valued by all lay people and which elements are liked or disliked by persons with different socio-demographic or psychosocial characteristics, to enable a differentiated approach in medical consultations.

FUNDING

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Conflicts of interest: None declared.

KEY POINTS

Several studies show a low correlation between patients' and professionals' quality assessments (10–12), underlying the need for a more direct approach to tapping patients' views about the quality of doctor–patient communication.

Previous studies have focused on patients' views about the quality of doctor–patient communication. This study contributes to provide new insights on this topic proposing an application of how a mixed method approach can be used to explore patients' perspective on doctors communicative performance in a multicentre study.

Insights from this study will be particularly helpful for medical education, because they will tell which types of physician communication are equally valued by all lay people and which elements are liked or disliked by persons with different socio-demographic or psychosocial characteristics asking for a differentiated approach in medical consultations.

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FIGURES AND TABLES

Figure 1 The study design. (Pt = patient, F = female, M= male, H= high score at GSPRS, L = low score at GSPRS)

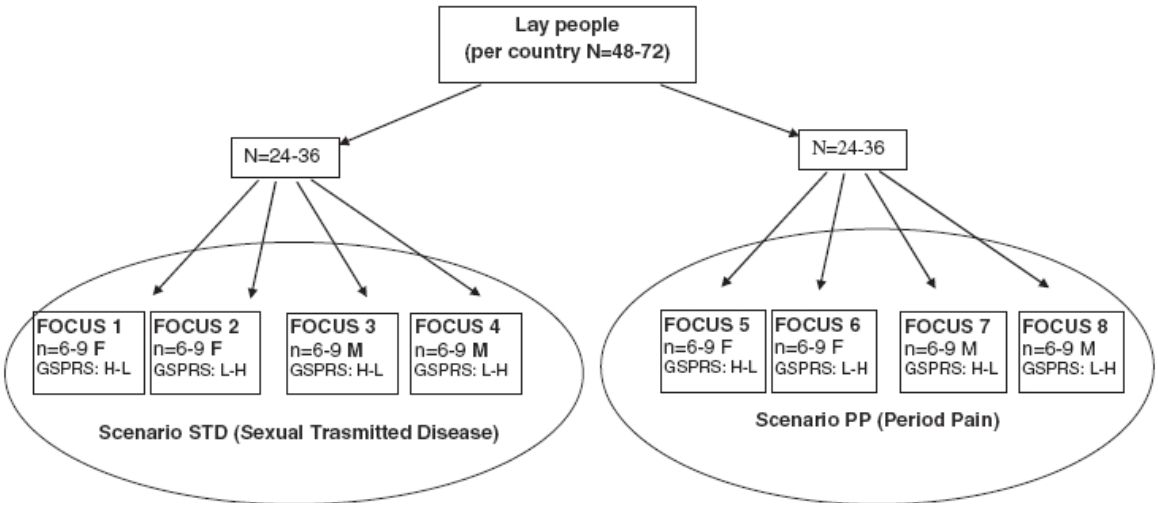

Table 1 Participants' frequency distribution according to country, age, gender and scenario (period pain-PP, sexual transmitted disease-STD)

Gender	Netherlands		Italy		UK		Belgium		Total		
Age	PP	STD	PP	STD	PP	STD	PP	STD	PP	STD	Total
Male											
18–30	4	6	4	6	7	2	6	4	21	18	39
31–50	5	4	7	7	6	10	3	3	21	24	45
>50	4	6	5	4	5	4	3	2	17	16	33
Total	13	16	16	17	18	16	12	9	59	58	117
Female											
18–30	10	4	7	7	7	3	3	6	27	20	47
31–50	5	5	7	5	8	8	4	5	24	23	47
>50	7	3	8	5	7	8	5	4	27	20	47
Total	22	12	22	17	22	19	12	15	78	63	141
Total*	35	28	38	34	40	35	24	24	137	121	258

*one socio-demographic questionnaire is missing in the Netherland subsample.

Table 2 Socio-demographic characteristics of participants by scenario and centre (ER=Emergency Room; H=Hospital; GP=General Physician)

Sample characteristics	Total sample	Sample							
		Scenario			Country				
	n = 258	PP *n* = 137	STD *n* = 121	*P*-value	NL *n* = 63	IT *n* = 72	UK *n* = 75	Be *n* = 48	*P*-value
Socio-demographic									
Education (%)				0.83					<0.01
None/primary school	12.8	13.9	11.6		17.5	22.2	0.0	12.5	
Secondary school	39.9	38.7	41.3		44.4	41.7	40.0	31.3	
Higher school	47.3	47.4	47.1		38.1	36.1	60.0	56.3	
Marital status (%)				0.58					0.14
Married/ Living together	44.7	47.8	41.3		42.9	33.3	57.3	44.7	
Widowed/Divorced	11.7	11.0	12.4		11.1	12.5	12.0	10.6	
Single	43.6	41.2	46.3		46.0	54.2	30.7	44.7	
Occupation (%)				0.59					**<0.01**
Employed	56.8	53.7	60.3		29.0	55.6	86.7	47.9	
Unemployed	4.7	3.6	5.8		8.1	5.6	0.0	6.3	
Student	19.8	22.1	17.4		33.9	18.1	6.7	25.0	
Incapacitated	4.7	4.4	4.9		11.3	0	2.7	6.3	
Other (housewife/retired)	14.0	16.2	11.6		17.7	20.8	4.0	14.5	
Clinical									
Chronic disease (%)	27.5	19.1	36.9	**<0.01**	33.3	15.3	16.0	56.3	**<0.01**
Coop-e (%)				0.43					**<0.01**
Excellent/very good	55.2	56.2	54.1		45.3	41.7	76.0	56.3	
Good	29.7	31.4	27.9		35.9	40.3	13.3	31.2	
Fair/poor	15.1	12.4	18.0		18.7	18.1	10.7	12.5	
GHQ % (Score >3)	24.3	26.3	22.1	0.44	28.1	20.8	17.3	35.4	0.10
ER visits (%) (Never)	77.2	76.6	77.9	0.81	73.4	79.2	81.3	72.9	0.59
H admission (%) (Never)	87.3	87.6	86.9	0.87	82.8	91.7	93.3	77.1	**0.03**
Specialist visits (%) (Never)	41.3	45.3	37.0	0.17	31.3	37.5	57.3	35.4	**<0.01**
GP visits				0.96					**0.01**
<5 times in a year	76.8	77.4	76.2		65.6	73.6	90.7	75.0	
6–11 times in a year	14.7	14.6	14.8		23.4	19.4	2.7	14.6	
Monthly or more	8.5	8.0	9.0		10.9	6.9	6.6	10.4	
Attitude									
QUOTE care mean (sd)	83.0 (16.7)	83.7 (16.6)	82.3 (16.8)	0.50	85.8 (16.4)	81.2 (16.3)	82.0 (17.2)	83.8 (16.7)	0.40
QUOTE cure mean (sd)	83.0 (14.1)	84.4 (15.0)	81.3 (13.1)	0.09	84.7 (14.3)	84.3 (13.8)	82.6 (14.0)	78.9 (14.5)	0.16
TMP Score mean (sd)	31.3 (5.7)	29.9 (5.4)	31.9 (4.4)	**<0.01**	30.1 (4.2)	31.5 (5.0)	30.8 (5.5)	31.1 (5.0)	0.46

Significant differences are reported in bold.