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Patients' attitudes towards patient involvement in safety interventions: results of two exploratory studies

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Abstract

Background In recent years, patient-focused interventions have been introduced aimed at increasing patient involvement in safety-related behaviours. However, patients' attitudes towards these interventions and comfort in participating in the recommended behaviours remain largely unexplored.

Objective To evaluate patients' attitudes towards a video and leaflet aimed at encouraging patient involvement in safety-related behaviours.

Design Two exploratory studies employing a within-subjects mixed-methods design.

Setting Six hospital wards on an inner-city London teaching hospital.

Participants Medical and surgical inpatients: 80 patients in study 1 (mean age 55; 69% men) and 80 patients in study 2 (mean age 52; 60% men).

Intervention Patients watched the PINK patient safety video (study 1) or read the National Patient Safety Agency's 'Please Ask' about staying in hospital leaflet (study 2).

Main outcome measures Perceived comfort in participating in safety-related behaviours; attitudes towards the video or leaflet.

Results Both video and leaflet increased patients' perceived comfort in engaging in some (but not all) safety-related behaviours ($P < 0.05$). In both studies, the majority of patients questioned whether the intervention could help to reduce medical errors in health care. Suggestions on how the video/leaflet could be improved mainly related to content and layout.

Conclusion Video and leaflet could be effective at encouraging patient involvement in some safety-related behaviours. Further in-depth research on patients' attitudes towards different educational materials is required to help inform future policies and interventions in this very important but under-researched area.

Introduction

When patients are encouraged to take on an active role in their health care, the quality and efficiency of care together with patients' health outcomes can improve.[1–5] Educated and involved patients are more likely to comply with their treatment regimes, which, in turn, can result in better outcomes for the patient, safer health care and reduced costs to the health-care system.[1,6,7] Over the last decade, policy makers have made great strides towards engaging patients in their care, the most notable exemplar being the promotion of the 'expert' patient within the chronic disease paradigm.[2] More recently, the context of patient involvement in the quality and safety of their health-care management has been advocated as a valuable avenue for exploration.[1,8–10] In the United Kingdom, Lord Darzi's report 'High Quality Care for All: Next Stage Review' highlights the need to educate patients on what they can do to reduce their risks of treatment complications and problems and to facilitate their recovery process.[8]

For patients to be active participants in promoting their safety, we first need to examine what strategies are effective at encouraging patient involvement in this context. Within the wider patient involvement paradigm, various patient-focused interventions have been developed as a means of educating patients so they can become active members of the health-care team.[1] Two interventions commonly employed are leaflets and, to a lesser extent, videos. Randomized controlled trials on the use of patient educational videos or leaflets have revealed promising findings in terms of increasing patients' knowledge, promoting shared decision making and participation in effective self-management strategies.[11–18] For example, the use of video can improve patients' knowledge on the disadvantages and treatment complications of prostate-specific antigen screening – a screening test for prostate cancer.[15] In relation to written educational information, self-management leaflets for patients with minor illnesses can help patients to feel greater confidence in managing their illness.[18]

Within the paradigm of patient safety, the effectiveness of leaflets and videos in changing patients' knowledge, attitudes and level of involvement still remains to be tackled. This is largely because patient involvement in this context (compared to other domains such as treatment decision making) is still a new and emerging area of interest. However, this fact aside, considering that an educated patient is likely to be a 'safer' patient,[19] there is urgent need to examine patients' attitudes towards patient involvement in safety interventions so that we can begin to understand what the most effective methods may be of imparting safety-related knowledge to the patient.

In recent years in the United Kingdom, United States and elsewhere, a number of interventions have been developed to encourage patients to take on an active role in their safety.[20–28] However, systematic reviews on the effectiveness of interventions designed to promote patient involvement in this area mainly centre on small-scale interventions developed for the specific purpose of a study,[1,29,30] and rigorous evaluation of major educational campaigns are lacking.[29]

We know from extant data that patients' preferences for involvement in different safety-related behaviours can vary.[31–35] Patients appear to be least willing to participate in behaviours perceived as challenging the clinical abilities of health-care staff and/or those that are newer or unfamiliar to adopt.[31–35] However, the effect of safety educational materials in changing these attitudes and improving patients' comfort in participation remains largely ignored. Preliminary data from one study in the United States demonstrated significant improvements in patients' perceived comfort to participate in different behaviours after watching a video that addressed six areas of safety concern (treatment plan, medication safety, falls, surgical site identification, hand washing and discharge planning).[28] Alternative data from another study (also collected in the United States) examined attitudes towards leaflets designed for patients, developed by major safety and health-care organizations.[19] Informants from key organiza-

tions actively involved in promoting patient involvement were asked their opinions on five leading factsheets and brochures. The informants concluded that the materials were of limited educational value to patients, and the authors of the work highlighted the urgent need for research on patients' interpretations and responses to interventions currently in circulation.[19]

With the above thoughts in mind, in this paper we take the first steps to addressing gaps in the evidence base my exploring patients' attitudes towards safety education interventions specifically within a UK hospital context. We present the findings of two exploratory studies that examine patients' attitudes towards a patient involvement in safety video and leaflet, two of the most common mediums used for patient education. We focus our attention on the 'PINK' patient safety video developed by Imperial College London in collaboration with the Teaching Hub for Operative Technologies in Healthcare and Team Saatchi and the National Patient Safety Agency's (NPSA's) 'Please Ask about Staying in Hospital' leaflet. Specifically, we aim to investigate the following:

1. The extent to which the PINK patient safety video and the 'Please Ask about staying in hospital' leaflet increase patients' perceived comfort in participating in safety-related behaviours;
2. Patients' attitudes towards the video and leaflet (e.g. was it easy to understand? did it increase knowledge of how to participate?).

Methods

Study design

We conducted two exploratory studies, both employing a within-subjects mixed-methods design. In study 1, patients watched the PINK patient safety video. In study 2, patients read the NPSA's 'Please Ask about Staying in Hospital' leaflet. Data were collected pre- and post-intervention. Ethical approval was obtained prior to data collection.

Participants

Participants for both studies were a sample of medical and surgical patients from six wards on an inner-city London teaching hospital. Closely following similar exploratory studies in the field of patient safety,[31] we aimed to recruit 80 patients for each study.

Patients were eligible to participate if they were over the age of 18 years, had undergone a surgical operation or medical procedure, spoke the English language and were able and willing to give informed consent. Patients who worked as health-care professionals were excluded because it was felt they would present a biased representation of the 'lay' patients' attitudes. Demographic information (sex, age, ethnicity, employment and education) and information on prior hospitalization were also recorded.

Materials

PINK video

This is a 4-min animation aimed at helping prevent errors in care by encouraging patients to participate in their health-care management, be informed about what to expect in terms of protocols for their current treatment and care management, notice and be alert to possible problems or errors in their health-care management and know what they can do to help facilitate their own recovery process (for further information, see http://www.cpssq.org/). The video promotes a number of key behaviours for patients to participate in, including (but not limited to), asking health-care professionals whether they have washed their hands, reporting errors, providing doctors/nurses with information about current medication regimen and any known allergies, and telling doctors/nurses if they have not received their medication.

'*Please Ask about staying in hospital' leaflet*

The leaflet is part of the 'Please Ask' campaign, launched in 2006. The leaflet advocates patient participation in safety-related behaviours, and it is freely available online (http://www.npsa.nhs.uk/pleaseask/beinformed/inpatients/). It is

aimed at making the patient feel more informed about their health care and less likely to worry. The leaflet covers a number of areas for the active patient, covering issues such as finding out whether they should not eat or drink before their hospital admission, electing an advocate, checking the surgeon has marked the surgeon site (if applicable), telling a doctor about current medicine regimen and any drug reactions or allergies, asking health-care professionals to wash their hands and speaking up if they think an error has occurred in their care (e.g. the surgical site has been marked incorrectly).

Measures

The measures for study 1 and study 2 were developed in the same way. Survey items were pretested iteratively among 20 hospitalized patients (medical and surgical patients) to ensure face validity, test–retest reliability, comprehensibility and usability.

The aims of both our exploratory studies were the same; thus, we chose in the surveys to focus on behaviours that both interventions addressed to help generate hypotheses for future work in this area.

Pre-intervention survey

A pre-intervention survey was developed for use for all patients in study 1 or study 2. The survey comprised seven items in total. Six items assessed patients' perceived comfort in participating in several behaviours that both the video and leaflet address: (i) asking doctors/nurses about hand washing (e.g. '*on a scale of 1–10 how comfortable would you be asking a doctor if they have washed their hands?*'); (ii) notifying doctors/nurses of their medication regimen and drug allergies; and (iii) reporting an error to a doctor/nurse. Six items were used to capture patients' responses: three items pertaining to interactions with doctors and three items related to nurses. The response format for the items was a 1–10 scale, with higher scores indicating higher comfort to participate.

One additional item in the survey asked patients whether they thought they could help prevent errors in hospital (response format '*yes*', '*no*', '*not sure*'). Patients who answered 'yes' were asked to provide further open-ended commentary.

Post-intervention survey

The post-intervention survey comprised 13 items for study 1 and 14 items for study 2. The same six items used in the pre-intervention survey that assessed comfort in participation in different safety-related behaviours were included (e.g. '*on a scale of 1-10 how comfortable would you be reporting an error to a doctor?*').

Seven additional items examined patients' attitudes towards the intervention. Patients were asked whether the leaflet/video: (i) could help reduce medical errors by encouraging patient participation and (ii) should be accessible to patients in hospital to see whenever they want (response format '*yes*' '*no*' '*not sure*'). Four questions examined whether the video/leaflet: (i) could improve knowledge on how to participate; (ii) encourage participation; (iii) was easy to understand; and (iv) interesting (response format of 1–10 scale, with higher scores indicating more favourable opinions). One item asked patients whether anything about the interventions should be changed/improved (open-ended responses).

For study 2 (leaflet intervention), one additional question was included: '*have you seen this leaflet before?*' (response format: '*yes*' '*no*' '*not sure*'). The leaflet has been publicly accessible to patients since 2006, so this item assesses its current dissemination. No similar question could be asked about the PINK video because it is not publicly accessible.

Procedure

Medical and surgical patients (post-operative) were approached from six different hospital wards. Data for study 1 was collected first. After recruiting our target sample of 80 participants (over a 3-month period), we began data collection for study 2. The procedure for study 1 and study 2 was the same. All participants were given a written information leaflet and given a stan-

dardized verbal explanation. Those patients who read the information leaflet and were happy to participate and provide written consent were recruited. The researcher collected demographic data, and the patient was then asked to complete the pre-intervention survey. Upon completion of the survey, patients were shown the PINK video on a laptop at their bedside (if in study 1) or asked to read the NPSA leaflet (if in study 2). The researcher allowed the participants to watch the video or read the leaflet by themselves but was available on the ward in case they had any questions. Participants were then given the post-intervention survey to complete. Data collection varied between 10 and 25 min for each participant. Both the pre and post-intervention surveys were self-administered and checked by the researcher after completion.

Statistical analyses

All characteristics of participants and outcomes were described using proportions for categorical variables and means/standard deviations for continuous variables. Paired sample *t* tests compared change in perceived comfort in participation before and after watching the video (study 1) or reading the leaflet (study 2). Quantitative data were screened for homogeneity of variance and normality distributions to ensure the assumptions of parametric tests were not violated (where applicable). All *P* values were two-sided with $P < 0.05$ considered significant.

We did not perform any statistical analysis in relation to differences in attitudes towards the two interventions. Conceptually, we acknowledge that while both the video and leaflet advise patients to participate in some of the same safety-related behaviours, they also comprise different content and were developed in different ways and thus cannot be directly compared through statistical analysis.

Qualitative data from open-ended questions were analysed by two researchers using content analysis. Emerging themes were extracted using relevant quotes for illustration by each researcher independently. For the purpose of interrater reliability, the researchers met after the independent analysis to ensure consensus of themes.

Results

In total, 106 patients were approached for study 1 and 95 patients were approached for study 2 to achieve our desired sample size of 80 participants in each study (response rates of 75 and 84%, respectively; overall response rate of 79.5%). Table 1 presents descriptive information on the characteristics of the participants in both studies. We acknowledge that direct comparisons cannot be drawn between attitudes towards the video and the leaflet. However, we are examining the extent to which the video and leaflet can change patients' attitudes towards involvement in the same safety-related behaviours; thus, for conciseness, in the results table, we present the results of both studies together.

Patients' perceived level of comfort in participating in safety-related behaviours pre and post-intervention

Table 2 displays descriptive statistics for the results of both studies in relation to patients' perceived level of comfort in participating in the safety-related behaviours before and after watching the video or reading the leaflet. The response format was on a scale of 1–10 (the higher the score, the more comfortable the patient was in participating in the behaviour). Both interventions were effective at encouraging patients to feel comfortable in asking doctors or nurses whether they had washed their hands and notifying doctors/nurses of problems/errors in their care.

Patients' attitudes towards the interventions

Table 3 displays descriptive information on whether patients thought the video or leaflet improved their knowledge and understanding, was interesting and would encourage them to participate in the safety of their health care. The response format was on a scale of 1–10 (the higher the score, the more favourable patients' attitudes towards the intervention).

Table 1 Patient characteristics

Socio-demographic variables	Study 1: video *N* (%)	Study 2: leaflet *N* (%)	Total number of subjects in study 1 and study 2 (%)
Sex			
Male	55 (68.8)	48 (60)	103 (64)
Female	25 (31.2)	32 (40)	57 (36)
Education			
No qualifications	19 (24)	9 (11)	28 (17)
GSCEs	21 (26)	14 (18)	35 (21)
A levels	18 (23)	16 (20)	34 (21)
Undergraduate degree	12 (15)	24 (30)	36 (23)
Post-graduate degree	3 (3.5)	8 (10)	11 (6.9)
Vocational training	7 (8.5)	9 (11)	16 (10)
Race			
Caucasian	59 (73.75)	55 (68.8)	114 (71)
Non-Caucasian	21 (26.35)	25 (31.3)	46 (29)
Employment			
Employed	27 (34)	29 (36)	56 (35)
Unemployed	11 (14)	10 (12.5)	21 (13)
Retired	29 (36)	30 (37.5)	59 (37)
Student	4 (5)	7 (9)	11 (7)
Registered disabled	9 (11)	4 (5)	13 (8)
Speciality			
Medical	38 (47.5)	39 (48.8)	77 (48)
Surgical	42 (52.5)	41 (51.2)	83 (52)
Age	35–80 (mean 53.25, SD 19.68)	18–82 (mean 51.78, SD 17.34)	Range: 18–88 (mean 52.5, SD 18.5)
Previous number of times in hospital	1–6 (mean 2.36, SD 1.19)	1–10 (mean 2.24, SD 1.65)	Range: 1–10 (mean 2.3 SD 1.44)

Patients' attitudes towards the efficacy and accessibility of the intervention

Twelve patients (15%) who watched the video and 14 (18%) patients who read the leaflet thought it could help to reduce medical errors as a result of encouraging patient participation. Seventy-two patients (91.2%) who watched the video and 71 patients (88.8%) who read the leaflet thought it should be available for them to watch/read whenever they wanted. All patients in study 2 reported that they had not seen the leaflet prior to the study (80 patients; 100%).

Patients' attitudes to their own role in error prevention

Overall, 44% of patients ($n = 71$) thought they could help to reduce medical errors in their care (49% in study 1; 40% in study 2), 18% answered in the negative (20 and 16%, respectively), and the remaining 38% were unsure (31 and 44%, respectively).

Of the 71 patients who answered '*yes*', 57 provided further comments (32 from study 1; 25 from study 2). In total, 137 responses from study 1 and study 2 (61 and 76, respectively) were provided, which fell into nine different themes (Table 4). Patients' responses tended to be generic, reflecting activities patients could engage in that would be applicable to any clinical situation as opposed to specific behaviours that could help to prevent particular types of errors (e.g. asking staff whether they have washed their hands to reduce the likelihood of spread of infection). The main activity that patients cited as an error-prevention strategy was asking questions, accounting for 36% of the total responses from study 1 and study 2 (14.5 and 21%, respectively).

Table 2 Perceived level of comfort in participating in the safety-related behaviours pre- and post-intervention

Type of behaviour (study 1: video; study 2: leaflet)	Pre-intervention Mean (SD)	Post-intervention Mean (SD)	*t* (*P* value when score is not significant)
Asking about hand washing (video)			
Doctor	3.59 (0.98)	6.05 (1.08)	21.12**
Nurse	4.00 (1.07)	7.01 (1.10)	18.64**
Asking about hand washing (leaflet)			
Doctor	3.74 (1.10)	6.29 (0.98)	17.66**
Nurse	4.36 (1.11)	6.83 (1.06)	14.36**
Notifying medication/allergies (video)			
Doctor	8.86 (0.72)	9.03 (0.72)	1.37 (.174)
Nurse	8.08 (0.95)	8.31 (0.85)	1.47 (.145)
Notifying medication/allergies (leaflet)			
Doctor	8.95 (0.79)	9.14 (0.77)	1.61 (.112)
Nurse	8.01 (0.75)	8.35 (0.87)	2.45*
Notifying problem/error (video)			
Doctor	7.40 (0.84)	8.01 (0.96)	3.79**
Nurse	7.61 (0.88)	8.17 (0.98)	4.72**
Notifying problem/error (leaflet)			
Doctor	7.34 (0.76)	7.80 (1.10)	2.87**
Nurse	7.45 (0.91)	8.34 (0.90)	7.06**

*$P < 0.05$, $P < 0.01$.
Analysis has not been performed between attitudes towards the video and leaflet because they cannot be directly compared (this also applies to the tables hereafter).

Table 3 Overall attitudes towards the intervention

Question	Study 1: video Mean (SD)	Study 2: leaflet Mean (SD)
Knowledge	5.34 (2.39)	4.61 (2.30)
Understanding	8.25 (0.91)	7.81 (1.32)
Interest	7.09 (1.57)	6.70 (1.67)
Encouragement	7.11 (1.46)	6.73 (1.53)

Differences in attitudes in relation to participant characteristics

There were no consistent differences ($P > 0.05$) in relation to patient characteristics (e.g. sex, education, speciality) and attitudes towards patient participation or attitudes towards the intervention at either the pre- or post-intervention stage in either study.

Patients' suggestions on how the interventions could be improved

Eighteen patients (22.5%) who watched the video (study 1) and 23 patients (28.8%) who read the leaflet (study 2) thought it could be improved. Forty-eight patients provided further open-ended responses (25 and 23 in study 1 and study 2, respectively; Table 5), with some participants providing responses that could be grouped into more than one theme.

Interestingly, patients also commented on their fear/worry of causing offence in relation to both the video ($n = 6$) and leaflet ($n = 4$):

1. 'I feel disturbed at making a fuss to those clearly delivering care' (participant 30, study 1);
2. 'I would not want to cause trouble…the doctors and nurses have enough to deal with' (participant 41, study 2);
3. 'I would not ask staff if they have washed their hands…it's really rude' (participant 60, study 2;)
4. 'reference to questioning staff could be offensive …looks like you are dictating to them (staff) how to do their job' (participant 1, study 1).

In addition, several patients in study 1 ($n = 8$) questioned the suitability of the video:

Table 4 Patients' open-ended responses to: 'how they think they could reduce medical errors in healthcare?'

Theme	Total (frequency mentioned by video/leaflet)	Example (verbatim quote from patient)
Asking questions	49 (20/29)	'asking doctors questions about what to expect'
Listening to advice	21 (10/11)	'paying attention to medical briefings so that you know what is going on'
Learning about condition/ being informed	16 (7/9)	'reading about your condition so you understand what problems may occur'
Adherence	15 (8/7)	'making sure you stick to medical advice and treatment'
Information provision	14 (5/9)	'providing information to doctors so that they can understand what the problem is'
Being aware	14 (4/10)	'monitoring your care to ensure errors do not happen and alerting staff if they do'
Checking care practices	4 (3/1)	'checking you have been give the correct medication'
Practicing health behaviours	2 (2/0)	'adopting healthy habits such as healthy eating as this could improve your immune system and therefore help the recovery process'
Personal hygiene	2 (2/0)	'looking after personal hygiene such as washing frequently to reduce the risk of infection'

Table 5 Patients' suggestions on how the video or leaflet could be improved

Intervention	Frequency of quotes related to theme	Example of quote (verbatim)
Study 1: video		
1. Make less patronising	10	'it should be less patronising …its not like we are stupid …we know most of these things anyway – they are basic common sense'
2. Make less stereotypical	7	'why is it that the cleaner in the video is black and the consultant surgeon is white with a posh accent – I don't like this …its like saying you can only have a good job if you speak in a posh manner'
3. Make available in other languages	6	'the video should be available in other languages –lots of people may not speak English that well especially in London …this needs to be addressed'
4. Make less humorous	5	'I think the video is trying to address an important topic but it is devalued as it puts the message across in a silly manner…makes it seem like involvement for patients is something to joke about which I find very offensive'
5. Gain the patients' perspective	3	'ask patient what they want…what is important to them to include…there is no point in just designing something without doing the background work'
Study 2: leaflet		
1. Layout	20	'I think the layout is messy and dull…I think there needs to be less information…it's too heavy'
2. Availability in other languages	5	'the wording needs to be changed if English is not first language'
3. Gaining the patients' perspective	3	'not sure whether patients had a say in this but if I did I would design it differently'

1. 'the video is targeted for a very young audience …it would not be suitable for adults';
2. 'I think the video is aimed more at children or those that are unfamiliar with healthcare';
3. 'the video should be more direct and less cartoony…or if you keep it as it is then other videos should be developed for a more adult audience'.

Discussion

The results of these two exploratory studies provide the first empirical insights in a UK context that leaflets and videos may be effective at increasing comfort in participating in some safety-related behaviours. Less than a quarter of patients in each study felt that the intervention would be effective at reducing medical errors (as a result of their own participation), and less than half the patients in each study felt they could help to prevent errors in their care. Patients viewed both the video and leaflet favourably in terms of how easy it was to understand. Less promising results were revealed however in relation to whether the interventions could improve patient knowledge. The majority of patients thought both interventions should be made readily available to them. In terms of how each intervention could be improved, key themes related to asking the patients their attitudes when designing the interventions and producing the intervention in languages other than English. In addition, patients in study 1 raised concerns about the suitability of the video, with some arguing it may not be appropriate for adults (as it is an animation). Some patients in both studies also raised a number of anxieties about engaging in the recommended behaviours, which largely centred on fear of causing offence to the health-care professionals involved in their care.

Our research carries several implications for the design of future policy and interventions in this area. First, and perhaps most importantly, many patients in our studies did not think they could positively contribute to their safety in health care. This explains, in part, why patients may have felt the interventions would not be effective at reducing medical errors. This is an important finding – in the light of such perceptions, there is a need for future policies to focus more on educating patients about their potential value in helping to prevent errors in their care. Patients who do not perceive the video or leaflet as useful methods of error prevention are unlikely to use such interventions (or perhaps engage in the relevant behaviours) regardless of how well designed the interventions may be.

Second, patients in our research raised concerns about causing offence to health-care professionals in relation to participating in some of the behaviours (e.g. asking about hand washing). This in part mirrors previous findings that providing safety-related information to patients could generate negative emotions and beliefs by making patients nervous or undermine trust in doctors.[19] It also draws attention to the worry of shifting responsibility onto the patient, a point also highlighted in previous literature.[19] Ultimately, delivering safe high-quality care is the ultimate responsibility of the health-care professional, and patients are not culpable (nor should they be made to feel so) if an error does occur during their treatment.[19] The challenge with this area of research and policy is finding a method of imparting safety-related information to patients without placing additional burden on them in an environment where they may already feel anxious.

Third, the success of interventions to encourage involvement may in part be dependent on the behaviours they advise patients to participate in. For example, in our research, both interventions increased patients' perceived comfort in asking doctors and nurses whether they have washed their hands. However, in terms of encouraging patients to notify staff of drug regimen and allergies, less favourable results across the interventions were displayed. From this work and drawing on previous literature, we know that patients' baseline willingness to inform staff about their current drug regimen is already very high.[32,34] We also know from extant data in the field that patients are less willing to engage in newer, unfamiliar recommendations (e.g. choosing a hospital based on the number of medical errors) and/or challeng-

ing behaviours (e.g. asking staff about their hand washing compliance) than to participate in those that are normalized in current medical practice and considered useful safety precautions to all (e.g. bringing medicines into hospital).[31–35] Taken together, this could mean that interventions such as video and leaflet may be most effective at encouraging involvement in those behaviours that patients find it particularly difficult to participate in.

Fourth, an important issue highlighted in our research relates to the dissemination of safety-related information. While it is clear there is a need for interventions aimed at encouraging patient involvement in safety, it is equally important that patients are educated and are aware of these interventions. Here, we found that no patient (in study 2) had seen the NPSA leaflet before (despite it being available on the NPSA website). It is of paramount importance to inform patients about such leaflets as they will have no impact if patients do know about such materials. In addition, although the Internet at present is the main dissemination route of safety-related information for patients, it may not be the optimum medium for all patients. A digital divide has been widely documented with rates of computer/Internet usage highest among the young, affluent and employed.[36] The potential of the Internet to effectively disseminate consumer health information is thus limited by disparities in both access and ability to use computer technology; thus, other avenues of circulation need to be explored.

Our research has certain limitations. While we followed a similar design to previous research within the field,[28] this did mean that we had no control group; thus, it is difficult to examine the exact impact of either intervention on changing patient attitudes. In addition, both studies employed a convenience sampling method, which could have possibly introduced selection bias. Participants were recruited from only one inner-city teaching hospital. Our research needs to be replicated across other sites and clinical specialties to assess the extent the findings can be applied to different patient cohorts. In addition, our studies relied on self-report; the generalizability and robustness of the findings need to be examined to determine whether patients would actively seek to access the information provided by the leaflet or the video and, ultimately, whether they would actually engage in the relevant behaviours. Furthermore, data were collected from patients almost immediately after they had watched the video or reading the leaflet. Data need to be collected over different post-intervention periods (e.g. 1 day, 1 week, 1 month) to assess the retention of the information and how this in turn may affect patients' attitudes towards involvement. Finally, in each study, we asked patients to score on a scale their attitudes towards involvement in the same behaviours at both the pre- and post-test stage. This could have resulted in practice effects, an effect that may be particularly pronounced when the interval between administering the pre- and post-surveys is short (as in our studies case). While this is not a fatal flaw with the methodology, it should be borne in mind when interpreting the results.

There are a number of priorities for future research in this area. First, to reliably investigate the impact of video or leaflet on changing patients' knowledge, attitudes and behaviours, RCTs should be conducted. To draw direct comparisons between patients' attitudes towards different interventions such as video or leaflet, interventions that cover the same content need to be developed using the same processes (e.g. patient feedback, health-care professional attitudes). Other methods of involving patients should also be examined (e.g. prompting aids, health-care professional encouragement). It may well be the case that a multimodal approach may be most effective at facilitating the 'active' patient.

Second, information retention by patients and their willingness to adhere to it in future care episodes require empirical investigation. Interventions ought to bring about effects sustainable over time to be both efficacious and cost-effective. Importantly, there ought to be further investigation into what information patients actually need at the different stages of their care – and how they want it delivered. Perhaps a

personalized approach to disseminating information may be most effective (though more costly); rather than giving information to patients around discrete care events, more holistic information about their care process could be provided. Patients might prefer to learn about their involvement in safety through open discussion with health-care professionals. Engaging in this dialogue may also help to normalize patient involvement in safety-related behaviours in standard practice, thus improving the acceptability of such activities.

Third, we have to examine the potential negative effects of involving patients.[19] We need to ensure that content in the interventions is tailored in such a way that the patients feel informed and empowered to take on an active role (if they so wish) but not anxious about the information they digest. We also need to ensure that patients' attempts to participate and avert errors will be responded to in the appropriate way by health-care professionals. Preliminary evidence indicates that when patients do try and participate, health-care professionals may react in a negative way, for example by laughing at their concerns.[37] In addition, there are anecdotal accounts of patients being harmed despite them speaking up beforehand and voicing their concerns to health-care professionals.[38,39] We therefore need to examine in detail the appropriateness of patient involvement in different safety-related roles, exploring acceptability from both the patients' and health-care professionals' perspective.

Finally, it is important to collect longitudinal data to assess efficacy as well as sustainability of interventions such as these described here and also to examine patient-related, health-care professional–related and organizational factors that may affect their effectiveness. A first level of efficacy should include objective increase in patients' willingness to get involved with their care. A second level of efficacy should include whether patients actually perform the behaviours. A third level of efficacy should inevitably examine whether patient involvement actually has a positive impact on the safety and quality of patient care and patient experience – the ultimate aim of this line of research.

Conclusion

In this paper, we presented findings of two novel studies on patients' attitudes towards a video and leaflet aimed at promoting patient involvement in safety-related behaviours. Our research, while exploratory, does appear to indicate that if we are serious about engaging patients in the safety of their care, it is likely that greater efforts will be required than simply developing patient videos or leaflets. Involving patients in the safety of their health care is a novel (and perhaps daunting) idea to most patients. Our data indicate that patients have a number of anxieties about participating in some of the recommended safety behaviours. To make patient involvement in promoting safety a working reality, partnerships need to be fostered between patients and health-care professionals to create an environment where patient participation is valued and supported.

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Conflicts of interest

None.

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