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Development and use of research vignettes to collect qualitative data from healthcare professionals: a scoping review

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Complete List of Authors:	Tremblay, Dominique; Université de Sherbrooke, School of Nursing; Centre de recherche Charles-Le Moyne Turcotte, Annie; Université de Sherbrooke, School of Nursing; Centre de recherche Charles-Le Moyne Touati, Nassera; École Nationale d'Administration Publique, Poder, Thomas; Université de Montréal, School of Public Health; Centre de Recherche de l'Institut Universitaire en Santé Mentale de Montréal, CIUSSS de l'Est-de-l'Île-de-Montréal Kilpatrick, Kelley; McGill University, Ingram School of Nursing, Faculty of Medicine; Susan E. French Chair in Nursing Research and Innovative Practice Bilodeau, Karine; Université de Montréal, Faculty of Nursing Roy, Mathieu; Université de Sherbrooke, Département de médecine familiale et d'urgence Richard, Patrick; Université de Sherbrooke, Département de chirurgie Lessard, Sylvie; Centre de recherche Charles-Le Moyne Giordano, Émilie; Centre de recherche Charles-Le Moyne
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TITLE

Development and use of research vignettes to collect qualitative data from healthcare professionals: a scoping review

AUTHORS

Dominique Tremblay[*, 1, 2] ; Annie Turcotte[1, 2] ; Nassera Touati[3]; Thomas G. Poder[4, 5]; Kelley Kilpatrick[6, 7]; Karine Bilodeau[8]; Mathieu Roy[9]; Patrick O. Richard[10]; Sylvie Lessard[2]; Émilie Giordano[2]

[*] Corresponding author

[1] École des sciences infirmières, Faculté de médecine et des sciences de la santé, Université de Sherbrooke, Longueuil, Quebec, Canada
[2] Centre de recherche Charles-Le Moyne, Longueuil, Quebec, Canada
[3] École nationale d'administration publique, Montreal, Quebec, Canada
[4] Département de Gestion, Évaluation et Politique de Santé, École de Santé Publique de l'Université de Montréal (ESPUM), Montreal, Quebec, Canada
[5] Centre de Recherche de l'Institut Universitaire en Santé Mentale de Montréal, CIUSSS de l'Est-de-l'Île-de-Montréal, Montreal, Quebec, Canada
[6] Susan E. French Chair in Nursing Research and Innovative Practice, Montreal, Québec, Canada
[7] Ingram School of Nursing, Faculty of Medicine and Health Sciences, McGill University, Montreal, Quebec, Canada
[8] Faculté des sciences infirmières, Université de Montréal, Montreal, Québec, Canada
[9] Département de médecine familiale et d'urgence, Faculté de médecine et des sciences de la santé, Université de Sherbrooke, Sherbrooke, Quebec, Canada
[10] Département de chirurgie, Faculté de médecine et des sciences de la santé, Université de Sherbrooke, Sherbrooke, Quebec, Canada

CORRESPONDING AUTHOR

Dominique Tremblay
Postal address :
150 place Charles-Le Moyne, PO Box 200, Longueuil, Quebec, Canada, J4K 0A8
e-mail: dominique.tremblay2@usherbrooke.ca

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ABSTRACT

Objective

To clarify the definition of vignette as a research method and identify key elements underpinning its development and utilization in qualitative research involving healthcare professionals.

Methods

A scoping review was performed according to the Joanna Briggs Institute approach. We searched electronic databases: Academic Search Complete, CINAHL Plus, MEDLINE, PsycINFO, and SocINDEX for empirical studies published from January 2000 to December 2020, in English or French. Articles on the development and utilization of research vignettes to collect qualitative data from healthcare professionals in clinical practice, training or continuing education were selected using a 3-step screening process: title, abstract, full text. Data were extracted on study characteristics, vignette definition, development, utilization, and strengths, limitations or recommendations from authors. A thematic analysis was conducted to synthesize main themes, followed by data charting.

Results

Ten studies out of 157 were retained after screening. Explicit definitions of research vignette were not always reported. However, research vignettes can be defined as evidence- and practice-informed short stories, scenarios, events or situations in specified circumstances, to which individuals or groups are invited to respond. Studies varied in the number of development steps, and approaches to interviews and utilization of research vignettes, impacting their strengths and limitations. Recommendations were related to reviewing content for plausibility, pretesting and interview approaches.

Conclusions

Research vignettes appear as a promising approach to deepen our understanding of sensitive or controversial topics with healthcare professionals. This review provides guidance for future utilization of this qualitative method, clarifying vignette definition, development and use. Future studies using research vignettes could improve quality by reporting: an explicit definition, detailed development steps, rich description of utilization, and strengths and limitations based on quality criteria for qualitative studies.

Keywords

Research vignette, Qualitative research, Human resource management, Quality in healthcare, Risk management, Oncology

STRENGTHS AND LIMITATIONS OF THIS STUDY

- To our knowledge, this is the first scoping review to focus on methodological issues regarding the definition, development and utilization of research vignettes to collect qualitative data from healthcare professionals.
- Our study provides a broad overview of how research vignettes have been used in studies with healthcare professionals over the last two decades.
- The review process follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) guideline universally recognized to improve the uptake of research findings.
- Although our content analysis considers quality criteria, in line with recommendations for the conduct of scoping reviews, we do not systematically appraise included studies.
- Relevant studies may have been excluded in our 3-step screening process, as titles and abstracts do not always specify whether the vignette is used as a qualitative research method.

INTRODUCTION

Research vignettes commonly refer to short hypothetical accounts reflecting real-world situations. These are presented to knowledgeable individuals who are invited to respond.[1] Generally speaking, this qualitative method allows participants to clarify and share their perceptions on sensitive topics such as dealing with adversity in challenging environments, discussing team functioning issues or moral dilemmas they face daily, and reflect on potential solutions. Vignettes appear useful to our research team, which is currently piloting an intervention to co-construct, implement and assess resilience at work among cancer teams, as a means of integrating the knowledge of cancer professionals on how to face adversity. The objective of the scoping review is to learn from prior use of vignettes in research in healthcare settings.

Team resilience at work refers to the capacity of team members to face and adapt to adverse situations.[2] Cancer care offers a valuable clinical context to study team resilience at work because professionals face daily adversity with overlapping challenges such as delivering news of a new cancer diagnosis or disease progression, constant changes in therapeutic regimens, frequent staff turn-over and shortages, and increased administrative tasks.[3-7] Cancer team members are exposed to mental health threats such as high stress, anxiety, compassion fatigue and loss of a sense of coherence[8] associated with absenteeism, burnout or depression.[4 5 9-12] While these negative effects of adversity have grown exponentially with COVID waves[13 14], solutions to manage and minimize these effects remain understudied. The vignette offers an empirically-based research approach that is well suited to this complex context.

Research vignettes explore and interpret contextualized phenomena to identify influential factors, and understand how participants perceive moral issues or sensitive experiences.[15] They also enable reflexive learning from practice, stimulate exchange on professional responses to difficult situations and support tailored actions to make sense of adversity. The research vignette is of interest in disciplines such as psychology, social science, education, medicine and nursing.[16-20] It has been developed and used to collect data on perceptions, beliefs, attitudes and knowledge,[17 19] from individuals or teams,[19 21] through individual or group interviews, or

questionnaires.[15 18 21] Commonly formatted as written narratives, vignettes can also be presented as audio segments, photographs or videos.[18 21]

Empirical studies use different definitions of the vignette and provide little detail about how it is developed and used to collect data.[15 19 21] Such methodological inconsistencies raise questions about the quality criteria of this qualitative approach.[17] Concerns have also been expressed around whether data collection approaches ensure an appropriate distance between the occurrence of sensitive events and the interview,[19] and around the need to mitigate the risk that participants provide socially desirable responses.[15] Finally, our preliminary search for existing research vignettes used to collect data from professionals in cancer care found only one qualitative study.[22] These factors emphasize the need to arrive at a working definition of the research vignette to inform data collection in subsequent study and provide the rationale for this scoping review.[23 24]

This study seeks to clarify the definition of vignette as a research method, and to identify key elements underpinning its development and utilization in qualitative research involving healthcare professionals.

METHOD

This scoping review mobilizes the Joanna Briggs Institute (JBI)'s methodological guidelines,[23] which build upon the seminal works of Arksey and O'Malley[25] and Levac *et al*.[26] Scoping reviews examine the number, range, and nature of studies relevant to a particular research question and are used to analyze and report available evidence.[27] The present scoping review follows the steps described by Peters *et al*.[23] The Preferred Reporting Items for Systematic reviews and Meta-analyses extension for Scoping Reviews (PRISMA-ScR) checklist criteria[24] are followed to report results (Appendix I). The protocol was registered prospectively with the Open Science Framework on July 1st, 2020 (https://osf.io/muz4x/?view_only=5943aa0ffb6541d6979ebeedba7464cb).

Ethics approval

No research ethics board approval was required since the data were publicly accessible.

Patient and public involvement

No patients or public involved in carrying out this scoping review.

Scoping review questions

The questions of the scoping review have a methodological focus: 1) How has the research vignette been defined?; 2) What steps have been involved in developing a research vignette to collect qualitative data in studies of healthcare professionals?; and 3) How is the vignette utilized to collect qualitative data from healthcare professionals?

Planned approach

The Population/participants, Concept, Context (PCC) framework, with the addition of the type of evidence source (type of study, type of publication), is used to guide the selection of eligibility criteria and the search strategy[23 28] (Table 1). PCC generally allows a wide range of articles to be considered for inclusion. The concept of interest was the vignette as a qualitative research method. Given that only one study was found in our preliminary search of research vignette development and utilization with cancer team members, the search was expanded to include studies in healthcare contexts other than oncology, and in both practice and educational settings.

Table 1: PCC framework and search strategy

	Search terms	Keywords and Boolean operators
1 – P (population/participants)	Healthcare professionals	clinician* OR physician* OR nurs* OR "health* personnel" OR ((health* OR professional*) N2 (health* OR practice* OR regulation* OR development* OR competence*))
2 – C (concept)	Research vignette	vignette* N5 (stud* OR method* OR design OR research* OR develop*)
3 – C (context)	Healthcare	health*
4 – Type of evidence source	Qualitative; research studies; systematic or scoping reviews	qualitative OR "scoping review" OR "system* review"
5 – Integrated steps		**1 AND 2 AND 3 AND 4**

Eligibility criteria

Inclusion criteria were: a) specific focus and/or statements about the development or utilization of the vignette method with healthcare professionals in clinical practice, training or continuing education; b) qualitative study design (action research, intervention research with clinical or educational application, professional practice-based initiatives); c) written in English or French; d) published between January 2000 and December 2020. Exclusion criteria were: a) absence of the word "vignette" in title, in order to target studies with a clear focus on method development or use; b) background articles or other articles that did not report outcomes from use of vignettes in qualitative data collection; c) studies using vignette with quantitative or mixed methods design. Articles without an abstract were excluded.

Search strategy

Research team members including researchers and professionals from various disciplines (e.g. nursing, psychology, economics, human resources management, medicine) were involved in search strategy pre-planning. An academic librarian contributed to determining the databases, search terms, boolean operators and query modifiers (Table 1). A total of 5 peer-reviewed online databases were searched: Academic Search Complete, CINAHL Plus, MEDLINE, PsycINFO, SocINDEX. The search was supplemented by hand-searching reference lists.

Source of evidence screening and selection

Articles were uploaded to Rayyan, a cloud-based application for systematic reviews.[29] Duplicates were removed before undertaking the 3-step screening process:[30] title, abstract and full-text assessment. Two reviewers (DT, AT) independently completed each screening step.[31] Disagreements on article selection and on reasons for exclusion were resolved by consensus through discussion between the two reviewers and two other team members (SL, EG). Reviewers selected and applied the highest reason for exclusion from a screening criteria priority list, which was agreed upon ahead of time.

Data extraction and analysis

Data extraction was performed in two cycles, according to Peters *et al.*'s recommendations on key information to extract.[23] The first cycle aimed to describe study characteristics (e.g. authors,

country and year of publication, study phenomenon, setting). The second cycle was based on a thematic analysis for data condensation.[32] The coding grid aligned with our review questions: vignette definition; vignette development (steps described, actors involved/developers, source and format of vignette content); vignette utilization (study participants, delivery method, introduction items, vignette presentation and handling, interview process, design and strategy for data analysis); strengths and limitations relating to vignette development or utilization, advantages or disadvantages of using the vignette, and recommendations reported by authors. The coding approach was defined by consensus between research team members (DT, AT, SL, EG). Data extraction was performed using QDA Miner (version 5.0.34).[33]

Results from thematic analysis regarding the development and utilization of research vignettes, as well as recommendations for vignette development and utilization that emerged from the reviewed articles, were synthesized in charting tables. Several research team meetings were carried out during the iterative data extraction and analysis process prior to the final display of results.

RESULTS

Search results

The removal of duplicates and the addition of one record from hand-searching left 157 potentially eligible articles. Screening by title excluded 127 articles, while screening of abstracts excluded 14 more. Full-text assessment excluded an additional 6 articles. The main reasons for exclusion were wrong concept (not research vignette) and wrong population (not healthcare professionals). A total of 10 articles were eligible for inclusion in the review. Search results are presented in a flow diagram[34] (Figure 1).

Figure 1: PRISMA flow diagram of article selection process

Characteristics of included studies

Included studies are published between 2002 and 2020, and involve healthcare professionals from four countries: Australia,[35] Canada,[22 36] Norway,[37] and the United Kingdom.[38-43] Study settings include oncology, primary care, mental health, public health, hospital care, health and social work, health education and critical care. Various phenomena are investigated, such as

quality of care related to professional practices, understanding of policy issues, appreciation of health services, perceptions towards patients, and moral or ethical issues. These characteristics are included in tables in the next sections.

Research vignette definition

The first question in this review concerns how studies define the research vignette. While a definition is missing in two articles,[40 41] four articles [22 36 38 39] provide an original definition informed by one or more key references. For example, Morrison (2015) defines vignettes as "*carefully designed short stories about a specific scenario presented to informants to prompt discussion related to their perceptions, beliefs, and attitudes*".[36, p. 362] The other four articles refer to key authors without giving an explicit definition.[35 37 42 43]

The definition provided by Finch (1987) is the most cited[35 36 38 42 43]: "*short stories about hypothetical characters in specified circumstances, to whose situation the interviewee is invited to respond*".[1, p.105] Other elements specified in definitions include the form of the vignette (e.g. text[39]), the nature of the stories or scenarios (e.g. simulations of real events, fictional, or composite[38 43]), or the aim of the vignette (e.g. to elicit individuals' perceptions, attitudes, beliefs, and social norms[36 38]).

Research vignette development

The second question of interest pertains to the steps involved in developing a research vignette to collect qualitative data from healthcare professionals. Table 2 presents a description of the vignettes in each study, the extent to which development steps are reported, as well as the steps and actors involved in vignette development.

Vignettes are designed as stories,[40] scenarios,[35 38 42 43] clinical situations emerging along the cancer trajectory,[22] or descriptions of a plausible individual or social situation.[36 37 39 41]. Including 1 to 20 situations, they are presented in written narrative form in all studies but one, which combines narratives and photographs.[36] Three studies use temporally-sequenced vignettes.[22 38 40] To emphasize the plausibility of the content, six articles mention the source of inspiration: real-life clinical situations or patient experiences,[22 36 39 41] observational research,[43] or situations involving ethical challenges seen in field study.[37]

The steps used to develop the vignette are clearly described in four studies. In the other studies, authors are either vague about the steps[36 40 43] or provide minimal to no information.[39 41 42] Although the number of steps ranges from 2 to 8, with various degrees of specification, design and pretesting appear as the most common steps to arrive at the version of the research vignette delivered in interviews. Other steps involve establishing the vignette content and format, and choosing a delivery approach (e.g. individual or group interview). Drawn either from literature (e.g. knowledge from reviews, existing frameworks or guidelines) or from empirical studies, the content is either developed by researchers, sometimes with input from clinical experts[22] or exploratory focus groups of individuals similar to research participants.[38]

Strategies are described to improve the internal validity of vignettes (relevance, reliability, effectiveness, completeness, familiarity and intelligibility). Three studies stress the importance of reviewing vignette content, conducting a survey with respondents similar to the targeted audience[37] or obtaining feedback from experts.[35 43] Vignettes are pretested in six studies, through piloting with experts[39 40] or individuals[35] or through group discussion[22 38]); one study mentions testing the vignettes and interview protocol without providing further detail.[36] Other strategies to improve internal validity include: use of a panel of experts,[38-40 43] use of primary research data[36-39] or framework[22] to develop the content; removal of elements from the vignettes that may bias the interviews;[37] and selecting a small number of scenarios (up to four) to be included in the vignette.[37]

Strategies to increase generalizability include making the vignettes realistic[36 37 43] and comparing pretest responses from experts with responses anticipated by the research team.[22] Researchers[22 35 37 38 40 43] also mention making changes to content, format, or delivery method as needed throughout validation and/or pretesting steps to assure internal and external validity.

Table 2: Description of vignette development in included studies

			Development steps with actors involved								
Study	**Vignette**	**Number of steps**	**Content (based on)**	**Format**	**Choice of approach**	**Interview questions**	**Preliminary versions**	**Anticipated responses**	**External validation / review**	**Pretest**	**Final version**
Andrews *et al*, 2020[39] **United Kingdom** Primary care – Self-monitoring of blood pressure	6 short sections on multiple points of care	M	R (S)	W	–	R	–	–	–	R, E	R
Cazale *et al*, 2006[22] **Canada** Oncology – Professional practices in cancer care	Clinical vignette, sequence of 4 events from the care coordination of a cancer patient	6	R (Li)	W	R	–	R, E	R	–	R, A	R
Holley and Gillard, 2018[38] **United Kingdom** Mental health – Understandings of risk and recovery	5 sequential scenarios on issues of living in the community with serious mental illness	2	R, A (Li, S)	W	–	R	R	R	–	R, A	R
Jackson *et al*, 2015[35] **Australia** Public health – Promotion of unhealthy foods and beverages	10 scenarios of marketing practices of a fictional multinational confectionery company	8	R (Li)	W	R	–	R	–	R, E	R, A	R
Johnson *et al*, 2005[40] **United Kingdom** Hospital and primary care – Role of advice in diabetes foot care	Continuous story in 6 stages of a patient with diabetes-related foot complications	DD	R (Li)	W	R	R	R	–	–	R, E	R
Morrison, 2015[36] **Canada** Oncology – Support in cancer survivors' work integration	7 combinations of photographs and narratives, reflective of cancer survivors' experiences of work integration	DD	R (S)	P, W	–	R	R	–	–	R	R

			Development steps with actors involved								
Study	**Vignette**	**Number of steps**	**Content (based on)**	**Format**	**Choice of approach**	**Interview questions**	**Preliminary versions**	**Anticipated responses**	**External validation / review**	**Pretest**	**Final version**
Østby and Bjørkly, 2011[37] **Norway** Health and social work – Ethical challenges in interactions	4 short, open-ended descriptions of interactions between people with intellectual disabilities and care staff	6	R (S)	W	–	R	R	–	R, A	–	R
Richman and Mercer, 2002[42] **United Kingdom** Psychiatric hospital – Discursive structures of nurses	12 short scenarios detailing case histories of a high-risk patient (6 white/6 black)	M	R (Li)	W	R	–	–	–	–	–	R
Spalding and Phillips, 2007[43] **United Kingdom** Health education – Preoperative education practice	1 snapshot, 20 portraits and 1 composite, within an action research to improve preoperative education	DD	R (S)	W	R	–	R	–	R, E	–	R
Thompson *et al*, 2003[41] **United Kingdom** Critical care – Adherence to advance directives	1 clinical vignette of a fictitious patient who had signed an advance directive before developing dementia	M	R (–)	W	–	R	–	–	–	–	R

Legend: –: Not reported; **Number of steps**: Number if clearly stated; DD: diffusely discussed; M: minimally or not discussed / **Actors involved**: A: Targeted audience; E: Experts; R: Researcher(s) / **Content based on**: Li: Literature, including knowledge from reviews, existing frameworks or guidelines; S: Empirical study conducted / **Format**: P: Photographs; W: Written

Research vignette utilization

The third question we explore in the review is how vignettes are used to collect qualitative data from healthcare professionals (Table 3).

Studies employ convenience[37] or purposive[35 36 38 39 41] sampling to determine inclusion and exclusion criteria for participants. Sociodemographics (age, gender or sex, years of experience) are reported in three studies,[37 39 41] while participants' profession is reported in all studies.

Research vignettes are delivered through individual interviews in seven studies.[35-38 40-42] The number of individuals varies from 8 to 30. Four studies present the vignettes in group interviews[22 39 41] or team meetings[43] of 2 to 14 participants. Johnson *et al*[40] consider that individual interviews are best suited to explore professionals' personal views, for logistical reasons and to reduce the risk of inhibiting expression due to power differentials between participants. In contrast, Cazale *et al*[22] use focus groups to observe the interaction between participants, which seems promising to generate data in their study aimed at assessing the quality of care provided by interdisciplinary teams. One study[41] uses both individual and group interviews, without explicit justification.

Six studies report that researchers introduced study objectives to participants, explained ground rules such as confidentiality, the interview procedure, and assured them there were no right or wrong answers. This is similar to other qualitative methods.

Various interviewing approaches are adopted in the studies: open discussion, semi-structured or structured. Interview guides are used in five studies.[36-40] All studies include questions about the participants' perceptions, views or beliefs regarding their own experiences or practices. One study includes questions to elicit participants' thoughts on whetehr the vignette content reflects their personal experience (plausibility).[38] Another adds questions on how others may have interpreted or behaved in a similar situation, which helps verify that the vignettes describe real-life practice situations and thus contributes to establishing their validity.[37]

Some note that the method is generally well received by participants,[35 36] despite two health professionals who "*opined that the vignettes were unnecessary to facilitate the dialogue that*

could have been accomplished by direct questioning".[36, p. 369] Certain issues are also reported regarding the quality of the answers elicited (e.g. answers from own perspective instead of others'; answers to avoid disclosing confidential or problematic information; answers tailored to social desirability).[35 37 38]

Various qualitative design and data analysis approaches are employed, including thematic analysis of interview responses, hermeneutic analysis, Framework analysis, Interpretive Description, or Modified Grounded Theory. Only three studies include information on reliability assessment using content validation by experts, pre-test or interview modalities.[22 39 41]

Table 3: Description of vignette utilization in included studies

Study	Participants	Delivery approach	Introduction	Presentation / Handling	Interview process	Design and data analysis
Andrews *et al*, 2020[39] United Kingdom Primary care – Self-monitoring of blood pressure	Physicians (n=14); Nurses (n=7) Total (n=21)	• Focus groups (n=5) • 2-8 per group • 1 hour	• Not reported	• Each vignette read out by researcher	• Semi-structured • Interview guide • One question on vignette with 2-5 follow-up questions on participants' experiences	• Thematic Analysis • Transcribed verbatim • Field notes • Validation by 3 researchers
Cazale *et al*, 2006[22] Canada Oncology – Professional practices in cancer care	Interdisciplinary teams of clinicians in oncology Total (n=41)	• Focus groups (n=5) • 5-14 per group • 1 hour	• Study objectives • Ground rules	• Each event presented by expert consultant • Sequential	• Semi-structured • One open-ended question per event on participants' own actual practices • Low control / high process style of moderation	• Coding base: cancer program guidelines • Transcribed verbatim • Field notes • Intercoder reliability assessment by 2 researchers
Holley and Gillard, 2018[38] United Kingdom Mental health – Understandings of risk and recovery	Psychiatrists, mental health professionals (n=8); Service users (n=8) Total (n=16)	• Individual interviews	• Participants' demographics	• Each vignette presented by researcher • Sequential	• Interview guide • Open-ended questions (n=not reported) on participants' thoughts about the vignettes and their own experiences in similar circumstances	• Thematic Analysis • Transcribed verbatim
Jackson *et al*, 2015[35] Australia Public health – Promotion of unhealthy foods and beverages	Public health professionals (n=10); Marketing and industry professionals (n=11) Total (n=21)	• Individual interviews • In person or by phone	• Ground rules	• Email prior to phone interview • Each scenario read by participant or researcher • One by one	• Open discussion on perceived challenges, threats and opportunities, drawing on professional background, opinions or experiences • Prompts to further explore threats or challenges	• Hermeneutic Analysis • Transcribed verbatim • Field notes • Research journal
Johnson *et al*, 2005[40] United Kingdom Hospital and primary care – Role of advice in diabetes foot care	Healthcare professionals, consultants, physicians, specialists (n=15); Patients (n=15) Total (n=30)	• Individual interviews	• Study objectives • Ground rules	• Each stage presented visually and verbally by researcher • Sequential	• Interview guide • 1-2 open-ended questions per sequence, on participants' views about services to patients • Participant's own issues discussed at the end	• Framework Analysis with coding • Transcribed verbatim

Study	Participants	Delivery approach	Introduction	Presentation / Handling	Interview process	Design and data analysis
Morrison, 2015[36] **Canada** Oncology – Support in cancer survivors' work integration	Oncologists (n=5); Physicians (n=5) Total (n=10)	• Individual interviews • 1-1.25 hours	• Participants' demographics	• Stack of vignettes evidently placed • Each read and kept by participant until taken by researcher • One by one	• Semi-structured • Interview guide • Open discussion on perspectives, beliefs, attitudes and behaviours	• Interpretive Description • Transcribed verbatim
Østby and Bjørkly, 2011[37] **Norway** Health and social work – Ethical challenges in interactions	Social educators Total (n=8)	• Individual interviews	• Ground rules	• One by one	• Interview guide • 2 sets of 3 questions with 3 follow-up subquestions: 1st set on participant's reflections and actions; 2nd set on views of how others would have reflected on or behaved • Additional question to assess vignette familiarity and relevance	• Not reported
Richman and Mercer, 2002[42] **United Kingdom** Psychiatric hospital – Discursive structures of nurses	Clinical nurses Total (n=30)	• Individual interviews • 0.75-2 hours	• Not reported	• Vignettes selected and read by participant	• Open discussion on participants' own practice experiences, emotional reactions, and larger cultural and media representations	• Not reported
Spalding and Phillips, 2007[43] **United Kingdom** Health education – Preoperative education practice	Healthcare professionals also presenters of education program Total (n=not reported)	• Team meetings	• Not reported	• Each vignette read by participant	• Open discussion on participants' perceptions, beliefs and meaning	• Not reported
Thompson *et al*, 2003[41] **United Kingdom** Critical care – Adherence to advance directives	Healthcare professionals and specialists from various disciplines Total (n=46)	• Individual interviews (n=12) • Focus groups (n=6) • 4-9 per group	• Not reported	• Critical care vignette shown by researcher	• One planned open-ended question, about the right thing to do	• Modified Grounded Theory • Coding base: topic guide • Transcribed verbatim • Independent coding validation by 3 researchers

Synthesis of recommendations from included studies

A synthesis of the recommendations on vignette development and utilization is presented in Table 4. These are based on analysis of the strengths and limitations reported in the 10 studies included in this scoping review.

Researchers in all the studies report that the vignette method is an effective means of exploring sensitive or difficult topics and eliciting in-depth responses and reflexivity.

Our scoping review suggests eight recommendations for vignette development: 1) follow a rigorous step-wise development process;[22 42] 2) involve experts who are knowledgeable informants or a multidisciplinary team in refining content;[22 38] 3) use credible sources such as primary research data, frameworks or literature reviews to develop content;[22 38 39 43] 4) be mindful of participants' availability when determining the number of sections or vignettes;[35 36] 5) avoid content that uses unclear terminology,[38] lacks information (e.g. not the full clinical picture),[38] includes too many variables,[22 35] or leads to particular interpretations or choices;[22 37] 6) provide vignettes that are meaningful and allow participants to identify with and reflect on the story;[36 38 43] 7) use validation strategies and test the quality of the vignette;[37 40] and 8) pay attention to the delivery, including semi-structured interview questions and form of probing [36-38] (e.g. a 3rd person format can help create safe distance to explore difficult topics;[36] consistency in the format: mixing 2nd and 3rd person questions can lead participants to answer most questions based on their personal experience[36]).

Our scoping review further suggests a number of recommendations regarding the utilization of the vignette method: 1) use the vignette consistently with each participant or group of participants to allow systematic data collection;[22 35 40] 2) make sure the interviewer has the skills to conduct individual or group interviews;[22 35 36] 3) recognize and try to discourage socially desirable responses;[35] 4) be cautious about the extent to which it reflects real-world situations for the participants;[35 40 41] 5) add one facilitator and one observer during focus groups;[22] 6) reach saturation in data collection;[36 37] 7) use validation strategies in data analysis (e.g. intercoder reliability assessment; theme validation)[39] and triangulation to reinforce the quality of results.[22 35]

Table 4: Synthesis of strengths (S), limitations (L) and recommendations in included studies

Study	Vignette development	Vignette utilization
Andrews *et al*, 2020[39] United Kingdom Primary care – Self-monitoring of blood pressure	• Primary data (e.g. excerpts from interviews) to provide authenticity to the study materials (S)	• Coding theme validation by multiple researchers (S) • Participant heterogeneity for larger perspective (L)
Cazale *et al*, 2006[22] Canada Oncology – Professional practices in cancer care	• Explicit development process (S) • Solid framework for development and analysis (S) • Involvement of experts (S) • Content in descriptive tone to avoid socially desirable responses (S) • Avoidance of information overload in vignette (S)	• Utilization to support learning and reflexivity (S) • Skilled facilitator such as external expert (S) • Support from assistant facilitators (S) • Triangulation using multiple data sources (L) • Standardized data collection if multi-site study (L)
Holley and Gillard, 2018[38] United Kingdom Mental health – Understandings of risk and recovery	• Exploratory focus groups to identify content (primary data), for vignette validity (S) • Respondent validity check through feedback focus groups with experts (S) • Prompts on own experiences, as questions on vignette may attract abstract or idealized responses (S) • Content based on sufficient and solid sources to allow validation of vignette (L) • Clear sociodemographic aspects (gender, ethnicity, etc.) in content and when sampling participants, to explore whether vignettes might elicit data that respond to issues of marginalization (L) • Clear definition of concepts used (L) • Presentation of realistic information (L) • Interview guides that allow to explore a full range of possible responses (L)	• Vignette elicited data on the complexities of the participants' roles, while addressing their own responsibilities (S)
Jackson *et al*, 2015[35] Australia Public health – Promotion of unhealthy foods and beverages	• Amount of scenarios and range of concepts (variables) to explore within time available (L) • Scenarios that generate a response but are not too extreme (L)	• Utilization as natural set of parameters for interview discussions, while allowing deeper investigation (S) • Consideration for how participants approach the vignettes (e.g. real-life; micro or macro-level) and how that may lead to socially desirable/guarded responses (S) • Interviewer skills to refocus (S) • Peer-debriefing with research team (S) • Triangulation using various analysis methods (S) • Prolonged engagement with data (S)

Study	Vignette development	Vignette utilization
		• Consistency of vignette utilization (same variables) between research populations for data comparison (S)
Johnson *et al*, 2005[40] **United Kingdom** Hospital and primary care – Role of advice in diabetes foot care	• Test with expert panel and pilot to increase internal validity. (S) • Wrap-up question at the end of the interview (S)	• Consistency of vignette utilization between research populations to allow data comparison (S) • Recognition of difference between potential behavior of fictitious character in vignette and actual experiences of the participant (S)
Morrison, 2015[36] **Canada** Oncology – Support in cancer survivors' work integration	• Content that provides a fair representation of the topic (reality, gravity) (S) • Consideration for the time available for participation (S) • Consideration for the interview questioning format: in third person to create safe distance; consistency in format used (L) • Consideration for number of vignettes (e.g. less than seven) (L)	• Utilization to invoke self-reflection (S) • Reaching saturation (S) • Interviewing skills (L) • Consideration for busy participants (time, distractions) (L)
Østby and Bjørkly, 2011[37] **Norway** Health and social work – Ethical challenges in interactions	• Removal of content that can lead to interpretations and choices (S) • Validation procedure to increase internal validity (S) • Questions and sub-questions designed to reduce socially desirable responses (S) • Questions to improve validity: situation perceived as familiar; own stories about similar situations; ask why? (S) • Triangulation (e.g. with quantitative measures) for further validation (L)	• Validated vignettes for enhanced reflections (S) • Reach of saturation (S)
Richman and Mercer, 2002[42] **United Kingdom** Psychiatric hospital – Discursive structures of nurses	• Decisions about : data for content (existing or constructed data), temporality (static or serial), degree of specialized information (specialised or everyday activities); aims of the project (analytical or prescriptive); medium (written, filmed or oral); role (to test or to generate hypothesis)	• Utilization as a prompt to reflect on personal experiences (S)
Spalding and Phillips, 2007[43] **United Kingdom** Health education – Preoperative education practice	• Primary data to develop vignettes that are meaningful, contextualized, and reflect reality (S)	• Utilization to facilitate reflection within an action research cycle (S)
Thompson *et al*, 2003[41] **United Kingdom** Critical care – Adherence to advance directives	• None relating to development	• Effective stimulus for discussion (S) • Utilization to highlight the gap between knowledge and action (S) • Caution about how vignette reflects the multifactorial arena of decision making in real world (L) • Verification of understanding of terminology used (L)

DISCUSSION

This scoping review contributes to clarifying the evidence base underlying the definition, development and use of research vignettes to collect data from healthcare professionals. It can inform planning of future research employing this qualitative approach. Ten studies are included that involve healthcare professionals in various settings.

Results show that the research vignette is not commonly used in studies of healthcare professionals, despite being recognized as a reflexive approach for "reflecting-on" and "reflecting-in" practice.[44] The method is well suited to intervention research, establishing partnership between knowledgeable actors from the field and researchers to define a problem and potential solutions.[45]

Despite the efforts of various authors to clarify the concept of the vignette as a research method, less than half the studies included in our review provide an explicit definition. Based on our scoping review, the research vignette as a qualitative method can be defined as evidence- and practice-informed short stories, scenarios, events or situations in specified circumstances, to which individuals or groups are invited to respond.[1 22 36 39]

Details of vignette development are only scarcely reported. Less than half of the studies explicitly report all steps in development. The range of development steps reflects the lack of standardized quality criteria for reporting vignette-based research. Greater transparency is needed to establish internal validity and enable study replication, notably around knowledgeable informant involvement in establishing vignette content and/or participating in validation steps.

Our results highlight that vignettes are delivered through individual interviews in most studies, but that some researchers opt for, or add group interviews to meet their study objectives. The choice may depend on whether the study seeks to elicit personal views or interaction between participants. However, the choice of interview approach is not always explained.

The lack of consistency in how studies are reported suggests that future vignette research should follow standards for reporting qualitative research (e.g. COREQ[46]). This scoping review provides an explicit definition of the research vignette, details about its development steps, descriptions of

its utilization, and an assessment of its strengths and limitations based on quality criteria for qualitative studies.

Although strategies are employed to ensure the rigor of the review process, we recognize several limitations. The search strategy is limited to electronic databases and excludes grey literature, and thus may not have identified all relevant studies. The small number of eligible studies reduces the robustness of recommendations for the development and utilization of research vignettes. The number may reflect our decision to include only articles that feature "vignette" in their title. Moreover, screening was challenging because studies provided little detail about how the eligibility of professional participants was determined or what qualitative approach was used, and mixed-methods was an exclusion criteria in our search strategy. Despite these limitations, we consider that the evidence around the development steps and utilization of vignettes that emerges from our scoping review helps deepen our understanding of the method and provides valuable recommendations for future research. While Peters *et al* (2020)[23] suggest that information scientists, stakeholders and/or experts may be consulted to validate the interpretations of scoping reviews, this step appears unnecessary given the diversity of our research team and the small number of included articles.

CONCLUSION

This scoping review generates a summary of the research vignette approach and offers guidance regarding the development and use of the vignette method with professionals in health care, which can be applied in oncology. Future research may contribute to overcoming identified risks to quality by reporting: 1) an explicit definition of the research vignette; 2) details about development steps; 3) rich description of utilization; and 4) strengths and limitations based on quality criteria for qualitative studies.

It is expected that future research will more systematically plan and document the development and utilization of the research vignette, and report the research process with sufficient detail to establish how the plausible content of the vignette is associated with study results. Future publications should take into account recommendations from the studies reported in this scoping review and integrate reporting on quality criteria.

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DECLARATION OF COMPETING INTERESTS

None declared.

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CONTRIBUTORSHIP STATEMENT

DT designed and coordinated the study and led the entire ScR process. She drafted the first version of the manuscript with AT and SL. AT, NT were involved in the data analysis and data charting. NT, TGP, KK, KB, SL and EG assisted with study planning, data collection and final interpretation. All authors critically revised the draft version and read and approved the final manuscript.

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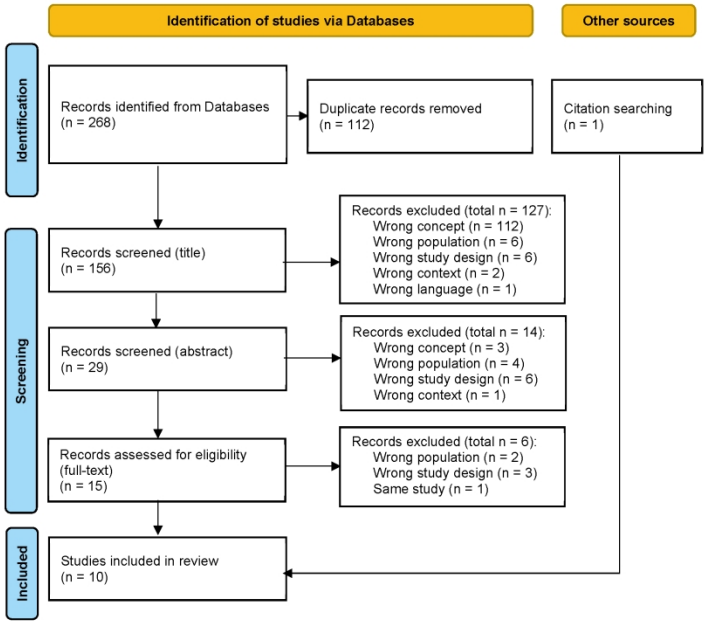
FIGURE LEGENDS

Figure 1: PRISMA flow diagram of article selection process

Adapted from: Page MJ, McKenzie JE, Bossuyt PM *et al*. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n7



Adapted from: Page MJ, McKenzie JE, Bossuyt PM et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n7

215x279mm (300 x 300 DPI)

APPENDIX I: Preferred Reporting Items For Systematic Reviews And Meta-Analyses Extension For Scoping Reviews (PRISMA-ScR) Checklist

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	1
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	2
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	4-5
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	5-6
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	5
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	6-7
Information sources	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	7
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	6
Selection of sources of evidence	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	7
Data charting process	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	7-8
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	7-8
Critical appraisal of individual	12	If done, provide a rationale for conducting a critical appraisal of included sources of	N/A

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
sources of evidence		evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	8
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	8
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	8-9; 11-12; 15-16; 18-19
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	N/A
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	8-19
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	17-19
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	20-21
Limitations	20	Discuss the limitations of the scoping review process.	21
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	21
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	22

From: Tricco AC, Lillie E, Zarin W, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. Ann Intern Med. 2018;169:467–473.

BMJ Open

Development and use of research vignettes to collect qualitative data from healthcare professionals: a scoping review

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Secondary Subject Heading:	Health services research, Qualitative research
Keywords:	QUALITATIVE RESEARCH, Human resource management < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Quality in health care < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Risk management < HEALTH SERVICES ADMINISTRATION & MANAGEMENT

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TITLE

Development and use of research vignettes to collect qualitative data from healthcare professionals: a scoping review

AUTHORS

Dominique Tremblay[*, 1, 2] ; Annie Turcotte[1, 2] ; Nassera Touati[3]; Thomas G. Poder[4, 5]; Kelley Kilpatrick[6, 7]; Karine Bilodeau[8]; Mathieu Roy[9]; Patrick O. Richard[10]; Sylvie Lessard[2]; Émilie Giordano[2]

[*] Corresponding author

[1] École des sciences infirmières, Faculté de médecine et des sciences de la santé, Université de Sherbrooke, Longueuil, Quebec, Canada
[2] Centre de recherche Charles-Le Moyne, Longueuil, Quebec, Canada
[3] École nationale d'administration publique, Montreal, Quebec, Canada
[4] Département de Gestion, Évaluation et Politique de Santé, École de Santé Publique de l'Université de Montréal (ESPUM), Montreal, Quebec, Canada
[5] Centre de Recherche de l'Institut Universitaire en Santé Mentale de Montréal, CIUSSS de l'Est-de-l'Île-de-Montréal, Montreal, Quebec, Canada
[6] Susan E. French Chair in Nursing Research and Innovative Practice, Montreal, Québec, Canada
[7] Ingram School of Nursing, Faculty of Medicine and Health Sciences, McGill University, Montreal, Quebec, Canada
[8] Faculté des sciences infirmières, Université de Montréal, Montreal, Québec, Canada
[9] Département de médecine familiale et d'urgence, Faculté de médecine et des sciences de la santé, Université de Sherbrooke, Sherbrooke, Quebec, Canada
[10] Département de chirurgie, Faculté de médecine et des sciences de la santé, Université de Sherbrooke, Sherbrooke, Quebec, Canada

CORRESPONDING AUTHOR

Dominique Tremblay
Postal address :
150 place Charles-Le Moyne, PO Box 200, Longueuil, Quebec, Canada, J4K 0A8
e-mail: dominique.tremblay2@usherbrooke.ca

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ABSTRACT

Objectives

To clarify the definition of vignette-based methodology in qualitative research, and to identify key elements underpinning its development and utilization in qualitative empirical studies involving healthcare professionals.

Design

Scoping review according to the Joanna Briggs Institute framework and PRISMA-ScR guidelines.

Data sources

Electronic databases: Academic Search Complete, CINAHL Plus, MEDLINE, PsycINFO, and SocINDEX (January 2000 – December 2020).

Eligibility criteria

Empirical studies in English or French with a qualitative design including an explicit methodological description of the development and/or use of vignettes to collect qualitative data from healthcare professionals. Titles and abstracts were screened and full-text reviewed by pairs of researchers according to inclusion/exclusion criteria.

Data extraction and synthesis

Data extraction included study characteristics, definition, development, and utilization of a vignette, as well as strengths, limitations, and recommendations from authors of the included articles. Systematic qualitative thematic analysis was performed, followed by data matrices to display the findings according to the scoping review questions.

Results

Ten articles were included. An explicit definition of vignettes was provided in only half the studies. Variations of the development process (steps, expert consultation, pretesting), data collection, and analysis demonstrate opportunities for improvement in rigor and transparency of the whole research process. Most studies failed to address quality criteria of the wider qualitative design and to discuss study limitations.

Conclusions

Vignette-based studies in qualitative research appear promising to deepen our understanding of sensitive and challenging situations lived by healthcare professionals. However, vignettes require conceptual clarification and robust methodological guidance so that researchers can

systematically plan their study. Focusing on quality criteria of qualitative design can produce stronger evidence around measures that may help healthcare professionals reflect on and learn to cope with adversity.

Keywords

Vignette, Vignette-based methodology, Qualitative research, Human resource management, Quality in healthcare, Risk management, Oncology

STRENGTHS AND LIMITATIONS OF THIS STUDY

- To our knowledge, this is the first scoping review to focus on methodological issues regarding the definition, development and utilization of vignette-based methodology to collect qualitative data from healthcare professionals.
- Our study provides a broad overview of how vignette-based methodology has been used in qualitative studies involving healthcare professionals over the last two decades.
- The review process follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) guideline universally recognized to improve the uptake of research findings.
- Although our content analysis considers quality criteria, in line with recommendations for the conduct of scoping reviews, we do not systematically appraise included studies.
- Relevant studies may have been excluded in our 3-step screening process, as titles and abstracts do not always specify whether the vignette is used when conducting qualitative research.

INTRODUCTION

Vignettes are commonly referred to as short hypothetical accounts reflecting real-world situations. Vignettes are presented to knowledgeable individuals who are invited to respond.[1] Generally speaking, vignettes allow participants to clarify and share their perceptions on sensitive topics such as dealing with adversity in challenging environments, discussing team functioning issues or moral dilemmas they face daily, and reflect on potential solutions. Vignette-based methodology in qualitative research appears useful to our research team, which is currently piloting an intervention to co-construct, implement and assess resilience at work among cancer teams, as a means of integrating the knowledge of cancer professionals on how to face adversity. The objective of the scoping review is to learn from prior use of vignette-based methodology in qualitative research in healthcare settings.

Team resilience at work refers to the capacity of team members to face and adapt to adverse situations.[2] Cancer care offers a valuable clinical context to study team resilience at work because professionals face daily adversity with overlapping challenges such as delivering news of a new cancer diagnosis or disease progression, constant changes in therapeutic regimens, frequent staff turn-over and shortages, and increased administrative tasks.[3-7] Cancer team members are exposed to mental health threats such as high stress, anxiety, compassion fatigue and loss of a sense of coherence[8] associated with absenteeism, burnout or depression.[4 5 9-12] While these negative effects of adversity have grown exponentially with each wave of the COVID-19 pandemic[13 14], solutions to manage and minimize these effects remain understudied. Cancer team members must manage and learn from difficult situations related to their practice context and the pandemic environment. The vignette-based methodology provides an opportunity to reflect and plan supportive interventions, and offers an empirically-based research approach that is well suited to this complex context.

Vignette-based methodology in qualitative research explores and interprets contextualized phenomena to identify influential factors, and understand how participants perceive moral issues or sensitive experiences.[15] It also enables reflexive learning from practice, stimulates exchange on professional responses to difficult situations and supports tailored actions to make sense of adversity. Vignette-based methodology is of interest in disciplines such as psychology, social

science, education, medicine and nursing.[16-20] It has been developed and used to collect data on perceptions, beliefs, attitudes and knowledge,[17 19] from individuals or teams,[19 21] through individual or group interviews, or questionnaires.[15 18 21] Commonly formatted as written narratives, vignettes can also be presented as audio segments, photographs or videos.[18 21]

Empirical studies use different definitions of the vignette and provide little detail about how it is developed and used to collect data.[15 19 21] Such methodological inconsistencies raise questions about the quality criteria of this qualitative approach.[17] Concerns have also been expressed around whether data collection approaches ensure an appropriate distance between the occurrence of sensitive events and the interview,[19] and around the need to mitigate the risk that participants provide socially desirable responses.[15] Finally, our preliminary search for studies using vignette-based methodology to collect qualitative data from professionals in cancer care found only one study.[22] These factors emphasize the need to arrive at a working definition of this approach to inform data collection in subsequent qualitative studies and provide the rationale for this scoping review.[23 24]

This study aims to clarify the definition of vignette-based methodology in qualitative research, and to identify key elements underpinning its development and utilization in empirical studies involving healthcare professionals.

METHODS

This scoping review mobilizes the Joanna Briggs Institute (JBI)'s methodological guidelines,[23] which build upon the seminal works of Arksey and O'Malley[25] and Levac *et al*.[26] Scoping reviews examine the number, range, and nature of studies relevant to a particular research question and are used to analyze and report available evidence.[27] The present scoping review follows the steps described by Peters *et al*.[23] The Preferred Reporting Items for Systematic reviews and Meta-analyses extension for Scoping Reviews (PRISMA-ScR) checklist criteria[24] are followed to report results (Appendix 1). The protocol was registered prospectively with the Open Science Framework on July 1st, 2020 (https://osf.io/muz4x/?view_only=5943aa0ffb6541d6979ebeedba7464cb).

Ethics approval

No research ethics board approval was required since the data were publicly accessible.

Patient and public involvement

No patients or public involved in carrying out this scoping review.

Scoping review questions

The questions of the scoping review have a methodological focus: 1) How has vignette-based methodology in qualitative research been defined?; 2) What steps have been involved in developing vignettes to collect qualitative data in studies involving healthcare professionals?; and 3) How is vignette-based methodology utilized to collect qualitative data from healthcare professionals?

Planned approach

The Population/participants, Concept, Context (PCC) framework, with the addition of the type of evidence source (type of study, type of publication), is used to guide the selection of eligibility criteria and the search strategy[23 28]. PCC generally allows a wide range of articles to be considered for inclusion. The concept of interest is the vignette as used in qualitative research. A preliminary search of qualitative vignette-based methodology development and utilization with cancer team members found only one study. Therefore, the search was expanded to include qualitative studies as well as systematic and scoping reviews (type of evidence source) in healthcare contexts other than oncology (context), with healthcare professionals in both practice and educational settings (population/participants).

Eligibility criteria

Inclusion criteria were: a) empirical studies with specific focus and/or statements about the development or utilization of vignettes in qualitative studies involving healthcare professionals in clinical practice, training or continuing education; b) qualitative study design (action research, intervention research with clinical or educational application, professional practice-based initiatives); c) written in English or French; d) published between January 2000 and December 2020 in journals listed in electronic databases. The search was limited to 2000 due to the very small number of publications prior to that year using vignettes in qualitative research involving

healthcare professionals. Exclusion criteria were: a) absence of the word "vignette" in title, in order to target studies with a clear focus on methodological development or use in qualitative research; b) background articles or other articles that did not report outcomes from use of vignettes in qualitative data collection; c) studies using vignette with quantitative or mixed methods design; d) studies reported in grey literature; e) articles without an abstract.

Search strategy

Research team members including researchers and professionals from various disciplines (e.g. nursing, psychology, economics, human resources management, medicine) were involved in search strategy pre-planning. An academic librarian contributed to determining the databases, search terms, boolean operators and query modifiers (Appendix 2). A total of 5 peer-reviewed online databases were searched: Academic Search Complete, CINAHL Plus, MEDLINE, PsycINFO, SocINDEX. The search was supplemented by hand-searching reference lists.

Source of evidence screening and selection

Articles were uploaded to Rayyan, a cloud-based application for systematic reviews.[29] Duplicates were removed before undertaking the 3-step screening process:[30] title, abstract and full-text assessment. Two reviewers (DT, AT) independently completed each screening step.[31] Disagreements on article selection and on reasons for exclusion were resolved by consensus through discussion between the two reviewers and two other team members (SL, EG). Reviewers selected and applied the highest reason for exclusion from a screening criteria priority list, which was agreed upon ahead of time.

Data extraction and analysis

Data extraction was performed in two cycles, according to Peters *et al.*'s recommendations on key information to extract.[23] The first cycle aimed to describe study characteristics (e.g. authors, country and year of publication, study phenomenon, setting). The second cycle was based on a thematic analysis for data condensation.[32] The coding grid aligned with our review questions: vignette definition; vignette development (steps described, actors involved/developers, source and format of vignette content); vignette utilization (study participants, delivery method, introduction items, vignette presentation and handling, interview process, design and strategy for

data analysis); strengths and limitations relating to vignette development or utilization, advantages or disadvantages of using the vignette, and recommendations reported by authors. The coding approach was defined by consensus between research team members (DT, AT, SL, EG). Data extraction was performed using QDA Miner (version 5.0.34).[33]

A thematic analysis on the development and utilization of vignettes, as well as recommendations from authors that emerged from the reviewed articles, were synthesized in charting tables. Several research team meetings were carried out during the iterative data extraction and analysis process. Data matrices were used to display the findings according to the scoping review questions.

RESULTS

Search results

The removal of duplicates and the addition of one record from hand-searching left 157 potentially eligible articles. Screening by title excluded 127 articles, while screening of abstracts excluded 14 more. Full-text assessment excluded an additional 6 articles. The main reasons for exclusion were wrong concept (not vignette-based methodology in qualitative research) and wrong population (not healthcare professionals). A total of 10 articles were eligible for inclusion in the review. Search results are presented in a flow diagram[34] (Figure 1).

Figure 1: PRISMA flow diagram of article selection process

Characteristics of included studies

Included studies are published between 2002 and 2020, and involve healthcare professionals from four countries: Australia,[35] Canada,[22 36] Norway,[37] and the United Kingdom.[38-43] Study settings include oncology, primary care, mental health, public health, hospital care, health and social work, health education and critical care. Various phenomena are investigated, such as quality of care related to professional practices, understanding of policy issues, appreciation of health services, perceptions towards patients, and moral or ethical issues. These characteristics are included in tables in the next sections.

Vignette-based methodology in qualitative research

The first question in this review concerns how studies define the vignette-based methodology in qualitative research. While a definition is missing in two articles,[40 41] four articles [22 36 38 39] provide an original definition informed by one or more key references. For example, Morrison (2015) defines vignettes as "*carefully designed short stories about a specific scenario presented to informants to prompt discussion related to their perceptions, beliefs, and attitudes*".[36, p. 362] The other four articles refer to key authors without giving an explicit definition.[35 37 42 43]

Vignettes are referred to as short stories about hypothetical characters in specified circumstances, that participants are invited to respond to.[35 36 38 42 43] Other elements specified in definitions include the form of the vignette (e.g. text[39]), the nature of the stories or scenarios (e.g. simulations of real events, fictional, or composite[38 43]), or the aim of the vignette (e.g. to elicit individuals' perceptions, attitudes, beliefs, and social norms[36 38]).

Methodological development of vignettes for qualitative research

The second question of interest pertains to the methodological steps involved in developing a vignette to collect qualitative data from healthcare professionals. Table 1 presents a description of the vignettes in each study, the extent to which development steps are reported, as well as the steps and actors involved in vignette development.

Vignettes are designed as stories,[40] scenarios,[35 38 42 43] clinical situations emerging along the cancer trajectory,[22] or descriptions of a plausible individual or social situation.[36 37 39 41] Including 1 to 20 situations, they are presented in written narrative form in all studies but one, which combines narratives and photographs.[36] Three studies use temporally-sequenced vignettes.[22 38 40] To emphasize the plausibility of the content, six articles mention the source of inspiration: real-life clinical situations or patient experiences,[22 36 39 41] observational research,[43] or situations involving ethical challenges seen in field study.[37]

The steps used to develop the vignette are clearly described in four studies. In the other studies, authors are either vague about the steps[36 40 43] or provide minimal to no information.[39 41 42] Although the number of steps ranges from 2 to 8, with various degrees of specification, design and pretesting appear as the most common steps to arrive at the version of the research vignette

delivered in interviews. Other steps involve establishing the vignette content and format, and choosing a delivery approach (e.g. individual or group interview). Drawn either from literature (e.g. knowledge from reviews, existing frameworks or guidelines) or from empirical studies, the content is either developed by researchers, sometimes with input from clinical experts[22] or exploratory focus groups of individuals similar to research participants.[38]

Strategies are described to improve the internal validity of vignettes (relevance, reliability, effectiveness, completeness, familiarity and intelligibility). Three studies stress the importance of reviewing vignette content, conducting a survey with respondents similar to the targeted audience[37] or obtaining feedback from experts.[35 43] Vignettes are pretested in six studies, through piloting with experts[39 40] or individuals[35] or through group discussion[22 38]); one study mentions testing the vignettes and interview protocol without providing further detail.[36] Other strategies to improve internal validity include: use of a panel of experts,[38-40 43] use of primary research data[36-39] or framework[22] to develop the content; removal of elements from the vignettes that may bias the interviews;[37] and selecting a small number of scenarios (up to four) to be included in the vignette.[37]

Strategies to increase generalizability include making the vignettes realistic[36 37 43] and comparing pretest responses from experts with responses anticipated by the research team.[22] Researchers[22 35 37 38 40 43] also mention making changes to content, format, or delivery method as needed throughout validation and/or pretesting steps to assure internal and external validity.

Table 1: Description of vignette development in included studies

			Development steps with actors involved								
Study	**Vignette**	**Number of steps**	**Content (based on)**	**Format**	**Choice of approach**	**Interview questions**	**Preliminary versions**	**Anticipated responses**	**External validation / review**	**Pretest**	**Final version**
Andrews *et al*, 2020[39] **United Kingdom** Primary care – Self-monitoring of blood pressure	6 short sections on multiple points of care	M	R (S)	W	–	R	–	–	–	R, E	R
Cazale *et al*, 2006[22] **Canada** Oncology – Professional practices in cancer care	Clinical vignette, sequence of 4 events from the care coordination of a cancer patient	6	R (Li)	W	R	–	R, E	R	–	R, A	R
Holley and Gillard, 2018[38] **United Kingdom** Mental health – Understandings of risk and recovery	5 sequential scenarios on issues of living in the community with serious mental illness	2	R, A (Li, S)	W	–	R	R	R	–	R, A	R
Jackson *et al*, 2015[35] **Australia** Public health – Promotion of unhealthy foods and beverages	10 scenarios of marketing practices of a fictional multinational confectionery company	8	R (Li)	W	R	–	R	–	R, E	R, A	R
Johnson *et al*, 2005[40] **United Kingdom** Hospital and primary care – Role of advice in diabetes foot care	Continuous story in 6 stages of a patient with diabetes-related foot complications	DD	R (Li)	W	R	R	R	–	–	R, E	R
Morrison, 2015[36] **Canada** Oncology – Support in cancer survivors' work integration	7 combinations of photographs and narratives, reflective of cancer survivors' experiences of work integration	DD	R (S)	P, W	–	R	R	–	–	R	R

			Development steps with actors involved								
Study	**Vignette**	**Number of steps**	**Content (based on)**	**Format**	**Choice of approach**	**Interview questions**	**Preliminary versions**	**Anticipated responses**	**External validation / review**	**Pretest**	**Final version**
Østby and Bjørkly, 2011[37] **Norway** Health and social work – Ethical challenges in interactions	4 short, open-ended descriptions of interactions between people with intellectual disabilities and care staff	6	R (S)	W	–	R	R	–	R, A	–	R
Richman and Mercer, 2002[42] **United Kingdom** Psychiatric hospital – Discursive structures of nurses	12 short scenarios detailing case histories of a high-risk patient (6 white/6 black)	M	R (Li)	W	R	–	–	–	–	–	R
Spalding and Phillips, 2007[43] **United Kingdom** Health education – Preoperative education practice	1 snapshot, 20 portraits and 1 composite, within an action research to improve preoperative education	DD	R (S)	W	R	–	R	–	R, E	–	R
Thompson *et al*, 2003[41] **United Kingdom** Critical care – Adherence to advance directives	1 clinical vignette of a fictitious patient who had signed an advance directive before developing dementia	M	R (–)	W	–	R	–	–	–	–	R

Legend: –: Not reported; **Number of steps**: Number if clearly stated; DD: diffusely discussed; M: minimally or not discussed / **Actors involved**: A: Targeted audience; E: Experts; R: Researcher(s) / **Content based on**: Li: Literature, including knowledge from reviews, existing frameworks or guidelines; S: Empirical study conducted / **Format**: P: Photographs; W: Written

Utilization of vignette-based methodology in qualitative research

The third question we explore in the review is how vignette-based methodology is used to collect qualitative data from healthcare professionals (Table 2).

Studies employ convenience[37] or purposive[35 36 38 39 41] sampling to determine inclusion and exclusion criteria for participants. Sociodemographics (age, gender or sex, years of experience) are reported in three studies,[37 39 41] while participants' profession is reported in all studies.

Vignettes are delivered through individual interviews in seven studies.[35-38 40-42] The number of individuals varies from 8 to 30. Four studies present the vignettes in group interviews[22 39 41] or team meetings[43] of 2 to 14 participants. Johnson *et al*[40] consider that individual interviews are best suited to explore professionals' personal views, for logistical reasons and to reduce the risk of inhibiting expression due to power differentials between participants. In contrast, Cazale *et al*[22] use focus groups to observe the interaction between participants, which seems promising to generate data in their study aimed at assessing the quality of care provided by interdisciplinary teams. One study[41] uses both individual and group interviews, without explicit justification.

Six studies report that researchers introduced study objectives to participants, explained ground rules such as confidentiality, the interview procedure, and assured them there were no right or wrong answers. This is similar to other qualitative methods.

Various interviewing approaches are adopted in the studies: open discussion, semi-structured or structured. Interview guides are used in five studies.[36-40] All studies include questions about the participants' perceptions, views or beliefs regarding their own experiences or practices. One study includes questions to elicit participants' thoughts on whether the vignette content reflects their personal experience (plausibility).[38] Another adds questions on how others may have interpreted or behaved in a similar situation, which helps verify that the vignettes describe real-life practice situations and thus contributes to establishing their validity.[37]

Some note that the method is generally well received by participants,[35 36] despite two health professionals who "*opined that the vignettes were unnecessary to facilitate the dialogue that could have been accomplished by direct questioning*".[36, p. 369] Certain issues are also reported

regarding the quality of the answers elicited (e.g. answers from own perspective instead of others'; answers to avoid disclosing confidential or problematic information; answers tailored to social desirability).[35 37 38]

Various qualitative design and data analysis approaches are employed, including thematic analysis of interview responses, hermeneutic analysis, Framework analysis, Interpretive Description, or Modified Grounded Theory. Only three studies include information on reliability assessment using content validation by experts, pre-test or interview modalities.[22 39 41]

Table 2: Description of vignette-based methodology utilization in included studies

Study	Participants	Delivery approach	Introduction	Presentation / Handling	Interview process	Design and data analysis
Andrews *et al*, 2020[39] United Kingdom Primary care – Self-monitoring of blood pressure	Physicians (n=14); Nurses (n=7) Total (n=21)	• Focus groups (n=5) • 2-8 per group • 1 hour	• Not reported	• Each vignette read out by researcher	• Semi-structured • Interview guide • One question on vignette with 2-5 follow-up questions on participants' experiences	• Thematic Analysis • Transcribed verbatim • Field notes • Validation by 3 researchers
Cazale *et al*, 2006[22] Canada Oncology – Professional practices in cancer care	Interdisciplinary teams of clinicians in oncology Total (n=41)	• Focus groups (n=5) • 5-14 per group • 1 hour	• Study objectives • Ground rules	• Each event presented by expert consultant • Sequential	• Semi-structured • One open-ended question per event on participants' own actual practices • Low control / high process style of moderation	• Coding base: cancer program guidelines • Transcribed verbatim • Field notes • Intercoder reliability assessment by 2 researchers
Holley and Gillard, 2018[38] United Kingdom Mental health – Understandings of risk and recovery	Psychiatrists, mental health professionals (n=8); Service users (n=8) Total (n=16)	• Individual interviews	• Participants' demographics	• Each vignette presented by researcher • Sequential	• Interview guide • Open-ended questions (n=not reported) on participants' thoughts about the vignettes and their own experiences in similar circumstances	• Thematic Analysis • Transcribed verbatim
Jackson *et al*, 2015[35] Australia Public health – Promotion of unhealthy foods and beverages	Public health professionals (n=10); Marketing and industry professionals (n=11) Total (n=21)	• Individual interviews • In person or by phone	• Ground rules	• Email prior to phone interview • Each scenario read by participant or researcher • One by one	• Open discussion on perceived challenges, threats and opportunities, drawing on professional background, opinions or experiences • Prompts to further explore threats or challenges	• Hermeneutic Analysis • Transcribed verbatim • Field notes • Research journal
Johnson *et al*, 2005[40] United Kingdom Hospital and primary care – Role of advice in diabetes foot care	Healthcare professionals, consultants, physicians, specialists (n=15); Patients (n=15) Total (n=30)	• Individual interviews	• Study objectives • Ground rules	• Each stage presented visually and verbally by researcher • Sequential	• Interview guide • 1-2 open-ended questions per sequence, on participants' views about services to patients • Participant's own issues discussed at the end	• Framework Analysis with coding • Transcribed verbatim

Study	Participants	Delivery approach	Introduction	Presentation / Handling	Interview process	Design and data analysis
Morrison, 2015[36] **Canada** Oncology – Support in cancer survivors' work integration	Oncologists (n=5); Physicians (n=5) Total (n=10)	• Individual interviews • 1-1.25 hours	• Participants' demographics	• Stack of vignettes evidently placed • Each read and kept by participant until taken by researcher • One by one	• Semi-structured • Interview guide • Open discussion on perspectives, beliefs, attitudes and behaviours	• Interpretive Description • Transcribed verbatim
Østby and Bjørkly, 2011[37] **Norway** Health and social work – Ethical challenges in interactions	Social educators Total (n=8)	• Individual interviews	• Ground rules	• One by one	• Interview guide • 2 sets of 3 questions with 3 follow-up subquestions: 1st set on participant's reflections and actions; 2nd set on views of how others would have reflected on or behaved • Additional question to assess vignette familiarity and relevance	• Not reported
Richman and Mercer, 2002[42] **United Kingdom** Psychiatric hospital – Discursive structures of nurses	Clinical nurses Total (n=30)	• Individual interviews • 0.75-2 hours	• Not reported	• Vignettes selected and read by participant	• Open discussion on participants' own practice experiences, emotional reactions, and larger cultural and media representations	• Not reported
Spalding and Phillips, 2007[43] **United Kingdom** Health education – Preoperative education practice	Healthcare professionals also presenters of education program Total (n=not reported)	• Team meetings	• Not reported	• Each vignette read by participant	• Open discussion on participants' perceptions, beliefs and meaning	• Not reported
Thompson *et al*, 2003[41] **United Kingdom** Critical care – Adherence to advance directives	Healthcare professionals and specialists from various disciplines Total (n=46)	• Individual interviews (n=12) • Focus groups (n=6) • 4-9 per group	• Not reported	• Critical care vignette shown by researcher	• One planned open-ended question, about the right thing to do	• Modified Grounded Theory • Coding base: topic guide • Transcribed verbatim • Independent coding validation by 3 researchers

Synthesis of recommendations from included studies

A synthesis of the recommendations on vignette development and utilization is presented in Table 3. These are based on analysis of the strengths and limitations reported in the 10 studies included in this scoping review.

Researchers in all the studies report that vignette-based methodology in qualitative research is an effective means of exploring sensitive or difficult topics and eliciting in-depth responses and reflexivity.

Eight authors' recommendations emerge from our scoping review around the methodology for development of vignettes in qualitative research: 1) follow a rigorous step-wise development process;[22 42] 2) involve experts who are knowledgeable informants or a multidisciplinary team in refining content;[22 38] 3) use credible sources such as primary research data, frameworks or literature reviews to develop content;[22 38 39 43] 4) be mindful of participants' availability when determining the number of sections or vignettes;[35 36] 5) avoid content that uses unclear terminology,[38] lacks information (e.g. not the full clinical picture),[38] includes too many variables,[22 35] or leads to particular interpretations or choices;[22 37] 6) provide vignettes that are meaningful and allow participants to identify with and reflect on the story;[36 38 43] 7) use validation strategies and test the quality of the vignette;[37 40] and 8) pay attention to the delivery, including semi-structured interview questions and form of probing [36-38] (e.g. a 3rd person format can help create safe distance to explore difficult topics;[36] consistency in the format: mixing 2nd and 3rd person questions can lead participants to answer most questions based on their personal experience[36]).

Our scoping review further suggests a number of recommendations regarding the utilization of vignette-based methodology: 1) use the vignette consistently with each participant or group of participants to allow systematic data collection;[22 35 40] 2) make sure the interviewer has the skills to conduct individual or group interviews;[22 35 36] 3) recognize and try to discourage socially desirable responses;[35] 4) be cautious about the extent to which it reflects real-world situations for the participants;[35 40 41] 5) add one facilitator and one observer during focus groups;[22] 6) reach

saturation in data collection;[36 37] 7) use validation strategies in data analysis (e.g. intercoder reliability assessment; theme validation)[39] and triangulation to reinforce the quality of results.[22 35]

Table 3: Synthesis of strengths (S), limitations (L) and authors' recommendations in included studies

Study	Vignette development	Vignette utilization
Andrews *et al*, 2020[39] United Kingdom Primary care – Self-monitoring of blood pressure	• Primary data (e.g. excerpts from interviews) to provide authenticity to the study materials (S)	• Coding theme validation by multiple researchers (S) • Participant heterogeneity for larger perspective (L)
Cazale *et al*, 2006[22] Canada Oncology – Professional practices in cancer care	• Explicit development process (S) • Solid framework for development and analysis (S) • Involvement of experts (S) • Content in descriptive tone to avoid socially desirable responses (S) • Avoidance of information overload in vignette (S)	• Utilization to support learning and reflexivity (S) • Skilled facilitator such as external expert (S) • Support from assistant facilitators (S) • Triangulation using multiple data sources (L) • Standardized data collection if multi-site study (L)
Holley and Gillard, 2018[38] United Kingdom Mental health – Understandings of risk and recovery	• Exploratory focus groups to identify content (primary data), for vignette validity (S) • Respondent validity check through feedback focus groups with experts (S) • Prompts on own experiences, as questions on vignette may attract abstract or idealized responses (S) • Content based on sufficient and solid sources to allow validation of vignette (L) • Clear sociodemographic aspects (gender, ethnicity, etc.) in content and when sampling participants, to explore whether vignettes might elicit data that respond to issues of marginalization (L) • Clear definition of concepts used (L) • Presentation of realistic information (L) • Interview guides that allow to explore a full range of possible responses (L)	• Vignette elicited data on the complexities of the participants' roles, while addressing their own responsibilities (S)
Jackson *et al*, 2015[35] Australia Public health – Promotion of unhealthy foods and beverages	• Amount of scenarios and range of concepts (variables) to explore within time available (L) • Scenarios that generate a response but are not too extreme (L)	• Utilization as natural set of parameters for interview discussions, while allowing deeper investigation (S) • Consideration for how participants approach the vignettes (e.g. real-life; micro or macro-level) and how that may lead to socially desirable/guarded responses (S) • Interviewer skills to refocus (S) • Peer-debriefing with research team (S) • Triangulation using various analysis methods (S) • Prolonged engagement with data (S)

Study	Vignette development	Vignette utilization
		• Consistency of vignette utilization (same variables) between research populations for data comparison (S)
Johnson *et al*, 2005[40] **United Kingdom** Hospital and primary care – Role of advice in diabetes foot care	• Test with expert panel and pilot to increase internal validity. (S) • Wrap-up question at the end of the interview (S)	• Consistency of vignette utilization between research populations to allow data comparison (S) • Recognition of difference between potential behavior of fictitious character in vignette and actual experiences of the participant (S)
Morrison, 2015[36] **Canada** Oncology – Support in cancer survivors' work integration	• Content that provides a fair representation of the topic (reality, gravity) (S) • Consideration for the time available for participation (S) • Consideration for the interview questioning format: in third person to create safe distance; consistency in format used (L) • Consideration for number of vignettes (e.g. less than seven) (L)	• Utilization to invoke self-reflection (S) • Reaching saturation (S) • Interviewing skills (L) • Consideration for busy participants (time, distractions) (L)
Østby and Bjørkly, 2011[37] **Norway** Health and social work – Ethical challenges in interactions	• Removal of content that can lead to interpretations and choices (S) • Validation procedure to increase internal validity (S) • Questions and sub-questions designed to reduce socially desirable responses (S) • Questions to improve validity: situation perceived as familiar; own stories about similar situations; ask why? (S) • Triangulation (e.g. with quantitative measures) for further validation (L)	• Validated vignettes for enhanced reflections (S) • Reach of saturation (S)
Richman and Mercer, 2002[42] **United Kingdom** Psychiatric hospital – Discursive structures of nurses	• Decisions about : data for content (existing or constructed data), temporality (static or serial), degree of specialized information (specialised or everyday activities); aims of the project (analytical or prescriptive); medium (written, filmed or oral); role (to test or to generate hypothesis)	• Utilization as a prompt to reflect on personal experiences (S)
Spalding and Phillips, 2007[43] **United Kingdom** Health education – Preoperative education practice	• Primary data to develop vignettes that are meaningful, contextualized, and reflect reality (S)	• Utilization to facilitate reflection within an action research cycle (S)
Thompson *et al*, 2003[41] **United Kingdom** Critical care – Adherence to advance directives	• None relating to development	• Effective stimulus for discussion (S) • Utilization to highlight the gap between knowledge and action (S) • Caution about how vignette reflects the multifactorial arena of decision making in real world (L) • Verification of understanding of terminology used (L)

DISCUSSION

This scoping review contributes to clarify the definition of vignette-based methodology in qualitative research, details its development steps, describes its utilization, and assesses its strengths and limitations based on quality criteria for qualitative studies. It can inform planning of future research employing this qualitative approach. Ten studies are included that involve healthcare professionals in various settings.

Main findings

Our results suggest an expanded use of the vignette as a qualitative methodology. Vignette-based methodology is not commonly used in qualitative studies involving healthcare professionals, despite being recognized as a suitable approach for "reflecting-on" and "reflecting-in" practice.[44] The methodology is well suited to intervention research, establishing partnership between knowledgeable actors from the field and researchers to define a problem and potential solutions.[45]

Despite the efforts of authors to clarify the concept, less than half the studies included in our review provide an explicit definition. Based on our scoping review, the vignette-based methodology in qualitative research can be defined as evidence- and practice-informed short stories, scenarios, events or situations in specified circumstances, to which individuals or groups are invited to respond.[1 22 36 39]

Details of vignette development are only scarcely reported. Less than half of the studies explicitly report all steps in development. The range of development steps reflects the lack of standardized quality criteria for reporting vignette-based methodology in qualitative research. Greater transparency is needed to establish internal validity and enable study replication, notably around knowledgeable informant involvement in establishing vignette content and/or participating in validation steps.

Our results highlight that vignettes are delivered through individual interviews in most studies, but that some researchers opt for, or add group interviews to meet their study objectives. The choice may depend on whether the study seeks to elicit personal views or interaction between participants. However, the choice of interview approach is not always explained.

Our results raise the need to explicitly consider and report strategies to ensure rigor and transparency in both the development of the vignette and the quality criteria of the wider qualitative study design (credibility, dependability, confirmability, transferability[46]). Even with well-designed vignette-based studies, limitations in external validity must be documented.

The vignette-based methodology in qualitative research has an added value in intervention research in which the definition of problems and solutions is carried out in partnership between healthcare professionals and researchers.[47] After expert consultation and pretesting, a vignette content that allows an in-depth understanding of a complex and highly contextualized phenomenon where a multitude of factors can, alone or in combination, influence the practice in clinical settings. Vignette-based qualitative studies offer the possibility of reflecting on challenging topics and supporting evidence-based decision making and action in practice and in future research.

Strengths and limitations

Although strategies are employed to ensure the rigor of the review process, we recognize several limitations. This scoping review was conducted to inform qualitative data collection from healthcare professionals using a reflexive approach, which explains why quantitative studies were excluded. We recognize that there is considerable use of vignettes in quantitative research**.** Their purpose, and therefore the quality criteria for their use, are categorically different than for qualitative studies, in terms of both vignette development and utilization. Stakeholders can better understand the complex world of health professionals if researchers move throughout complementary approach to better understand complex issues.[48]

The search strategy is limited to empirical studies retrieved from electronic databases after 2000, and excludes grey literature, in line with the preoccupation with methodological questions in this scoping review. It may have excluded a few relevant studies. The small number of eligible studies reduces the robustness of recommendations for the development and utilization of vignette-based methodology in qualitative research. The number may reflect our decision to include only articles that feature “vignette” in their title. Moreover, screening was challenging because studies provided little detail about how the eligibility of professional participants was

determined or what qualitative approach was used, and mixed-methods was an exclusion criteria in our search strategy.

Despite these limitations, we consider that the evidence around the development steps and utilization of vignettes that emerges from our scoping review helps deepen our understanding of the method and provides valuable recommendations for future research. While Peters *et al* (2020)[23] suggest that information scientists, stakeholders and/or experts may be consulted to validate the interpretations of scoping reviews, this step appears unnecessary given the diversity of our research team and the small number of included articles.

CONCLUSION

This scoping review generates a summary of vignette-based methodology and offers guidance regarding the development and use of vignettes in qualitative research involving healthcare professionals, which can be applied in various settings including oncology. Future research may contribute to overcoming identified risks to quality by reporting: 1) an explicit definition of vignette-based methodology as for all qualitative study design; 2) details about vignette development steps (internal validity); 3) rich description of vignette utilization (external validity); and 4) strengths and limitations based on quality criteria for qualitative studies.

It is expected that future research will more systematically plan and document the development and utilization of vignette-based methodology, and report the research process with sufficient detail to establish how the plausible content of the vignette is associated with study results. Future publications should take into account recommendations from the studies reported in this scoping review and integrate reporting on quality criteria.

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DECLARATION OF COMPETING INTERESTS

None declared.

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CONTRIBUTORSHIP STATEMENT

DT designed and coordinated the study and led the entire ScR process. She drafted the first version of the manuscript with AT and SL. AT, NT were involved in the data analysis and data charting. NT, TGP, KK, KB, SL and EG assisted with study planning, data collection and final interpretation. All authors critically revised the draft version and read and approved the final manuscript.

DATA AVAILABILITY STATEMENT

All data relevant to the scoping review are from published articles available in electronic databases.

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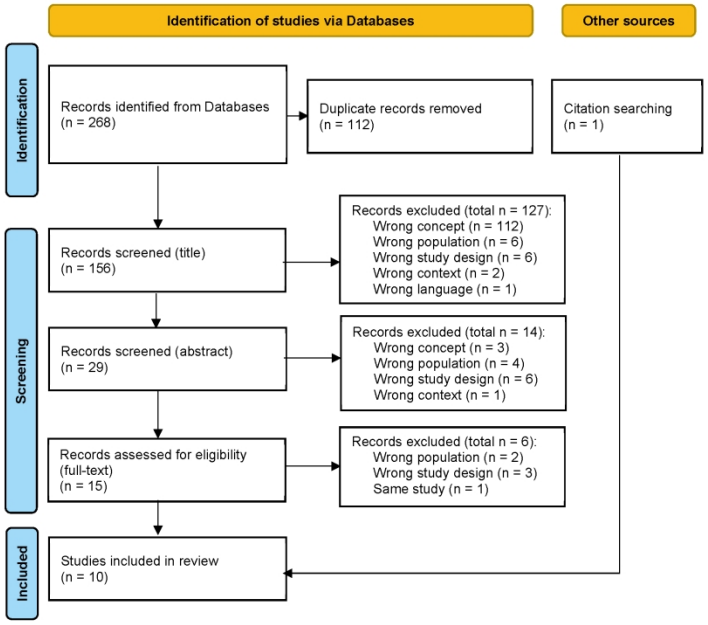
FIGURE LEGENDS

Figure 1: PRISMA flow diagram of article selection process

Adapted from: Page MJ, McKenzie JE, Bossuyt PM *et al*. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n7



Adapted from: Page MJ, McKenzie JE, Bossuyt PM et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n7

215x279mm (300 x 300 DPI)

APPENDIX I: Preferred Reporting Items For Systematic Reviews And Meta-Analyses Extension For Scoping Reviews (PRISMA-ScR) Checklist

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	1
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	2-3
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	5-6
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	6-7
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	6
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	7-8
Information sources	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	8
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	8; Appendix 2
Selection of sources of evidence	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	8
Data charting process	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	9
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	8-9

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
Critical appraisal of individual sources of evidence	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	N/A
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	9
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	9; Figure 1
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	9; 12-13; 16-17; 20-21
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	N/A
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	9; 12-13; 16-17; 20-21
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	9-11; 14-15; 18-19
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	22-23
Limitations	20	Discuss the limitations of the scoping review process.	23-24
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	24
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	25

From: Tricco AC, Lillie E, Zarin W, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. Ann Intern Med. 2018;169:467–473.

APPENDIX 2: Search strategy

Databases searched: Academic Search Complete, CINAHL Plus, MEDLINE, PsycINFO, SocINDEX

Search strategy for all databases searched

Search limit: Published date from 2000-01-01 to 2020-12-31

ID	Search terms
S1	vignette* N5 (stud* OR method* OR design OR research* OR develop*)
S2	health*
S3	qualitative OR "scoping review" OR "system* review"
S4	clinician* OR physician* OR nurs* OR "health* personnel" OR ((health* OR professional*) N2 (health* OR practice* OR regulation* OR development* OR competence*))
S5	**S1 AND S2 AND S3 AND S4**

BMJ Open

Development and use of research vignettes to collect qualitative data from healthcare professionals: a scoping review

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Primary Subject Heading:	Qualitative research
Secondary Subject Heading:	Health services research, Qualitative research
Keywords:	QUALITATIVE RESEARCH, Human resource management < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Quality in health care < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Risk management < HEALTH SERVICES ADMINISTRATION & MANAGEMENT

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TITLE

Development and use of research vignettes to collect qualitative data from healthcare professionals: a scoping review

AUTHORS

Dominique Tremblay[*, 1, 2] ; Annie Turcotte[1, 2] ; Nassera Touati[3]; Thomas G. Poder[4, 5]; Kelley Kilpatrick[6, 7]; Karine Bilodeau[8]; Mathieu Roy[9]; Patrick O. Richard[10]; Sylvie Lessard[2]; Émilie Giordano[2]

[*] Corresponding author

[1] School of Nursing, Faculty of Medicine and Health Sciences, Université de Sherbrooke, Longueuil, Quebec, Canada
[2] Centre de recherche Charles-Le Moyne, Longueuil, Quebec, Canada
[3] École nationale d'administration publique, Montreal, Quebec, Canada
[4] Department of Management, Evaluation and Health Policy, School of Public Health, Université de Montréal, Montreal, Quebec, Canada
[5] Centre de Recherche de l'Institut Universitaire en Santé Mentale de Montréal, Centre intégré universitaire de santé et de services sociaux de l'Est-de-l'Île-de-Montréal, Montreal, Quebec, Canada
[6] Susan E. French Chair in Nursing Research and Innovative Practice, Montreal, Québec, Canada
[7] Ingram School of Nursing, Faculty of Medicine and Health Sciences, McGill University, Montreal, Quebec, Canada
[8] Faculty of Nursing, Université de Montréal, Montreal, Québec, Canada
[9] Department of Family Medicine and Emergency Medicine, Faculty of Medicine and Health Sciences, Université de Sherbrooke, Sherbrooke, Quebec, Canada
[10] Department of Surgery, Faculty of Medicine and Health Sciences, Université de Sherbrooke, Sherbrooke, Quebec, Canada

CORRESPONDING AUTHOR

Dominique Tremblay
Postal address :
150 place Charles-Le Moyne, PO Box 200, Longueuil, Quebec, Canada, J4K 0A8
e-mail: dominique.tremblay2@usherbrooke.ca

WORD COUNT

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ABSTRACT

Objectives

To clarify the definition of vignette-based methodology in qualitative research, and to identify key elements underpinning its development and utilization in qualitative empirical studies involving healthcare professionals.

Design

Scoping review according to the Joanna Briggs Institute framework and PRISMA-ScR guidelines.

Data sources

Electronic databases: Academic Search Complete, CINAHL Plus, MEDLINE, PsycINFO, and SocINDEX (January 2000 – December 2020).

Eligibility criteria

Empirical studies in English or French with a qualitative design including an explicit methodological description of the development and/or use of vignettes to collect qualitative data from healthcare professionals. Titles and abstracts were screened and full-text reviewed by pairs of researchers according to inclusion/exclusion criteria.

Data extraction and synthesis

Data extraction included study characteristics, definition, development, and utilization of a vignette, as well as strengths, limitations, and recommendations from authors of the included articles. Systematic qualitative thematic analysis was performed, followed by data matrices to display the findings according to the scoping review questions.

Results

Ten articles were included. An explicit definition of vignettes was provided in only half the studies. Variations of the development process (steps, expert consultation, pretesting), data collection, and analysis demonstrate opportunities for improvement in rigor and transparency of the whole research process. Most studies failed to address quality criteria of the wider qualitative design and to discuss study limitations.

Conclusions

Vignette-based studies in qualitative research appear promising to deepen our understanding of sensitive and challenging situations lived by healthcare professionals. However, vignettes require conceptual clarification and robust methodological guidance so that researchers can

systematically plan their study. Focusing on quality criteria of qualitative design can produce stronger evidence around measures that may help healthcare professionals reflect on and learn to cope with adversity.

Keywords

Vignette, Vignette-based methodology, Qualitative research, Human resource management, Quality in healthcare, Risk management, Oncology

STRENGTHS AND LIMITATIONS OF THIS STUDY

- To our knowledge, this is the first scoping review to focus on methodological issues regarding the definition, development and utilization of vignette-based methodology to collect qualitative data from healthcare professionals.
- Our study provides a broad overview of how vignette-based methodology has been used in qualitative studies involving healthcare professionals over the last two decades.
- The review process follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) guideline universally recognized to improve the uptake of research findings.
- Although our content analysis considers quality criteria, in line with recommendations for the conduct of scoping reviews, we do not systematically appraise included studies.
- Relevant studies may have been excluded in our 3-step screening process, as titles and abstracts do not always specify whether the vignette is used when conducting qualitative research.

INTRODUCTION

Vignettes are commonly referred to as short hypothetical accounts reflecting real-world situations. Vignettes are presented to knowledgeable individuals who are invited to respond.[1] Generally speaking, vignettes allow participants to clarify and share their perceptions on sensitive topics such as dealing with adversity in challenging environments, discussing team functioning issues or moral dilemmas they face daily, and reflect on potential solutions. Vignette-based methodology in qualitative research appears useful to our research team, which is currently piloting an intervention to co-construct, implement and assess resilience at work among cancer teams, as a means of integrating the knowledge of cancer professionals on how to face adversity. The objective of the scoping review is to learn from prior use of vignette-based methodology in qualitative research in healthcare settings.

Team resilience at work refers to the capacity of team members to face and adapt to adverse situations.[2] Cancer care offers a valuable clinical context to study team resilience at work because professionals face daily adversity with overlapping challenges such as delivering news of a new cancer diagnosis or disease progression, constant changes in therapeutic regimens, frequent staff turn-over and shortages, and increased administrative tasks.[3-7] Cancer team members are exposed to mental health threats such as high stress, anxiety, compassion fatigue and loss of a sense of coherence[8] associated with absenteeism, burnout or depression.[4 5 9-12] While these negative effects of adversity have grown exponentially with each wave of the COVID-19 pandemic[13 14], solutions to manage and minimize these effects remain understudied. Cancer team members must manage and learn from difficult situations related to their practice context and the pandemic environment. The vignette-based methodology provides an opportunity to reflect and plan supportive interventions, and offers an empirically-based research approach that is well suited to this complex context.

Vignette-based methodology in qualitative research explores and interprets contextualized phenomena to identify influential factors, and understand how participants perceive moral issues or sensitive experiences.[15] It also enables reflexive learning from practice, stimulates exchange on professional responses to difficult situations and supports tailored actions to make sense of adversity. Vignette-based methodology is of interest in disciplines such as psychology, social

science, education, medicine and nursing.[16-20] It has been developed and used to collect data on perceptions, beliefs, attitudes and knowledge,[17 19] from individuals or teams,[19 21] through individual or group interviews, or questionnaires.[15 18 21] Commonly formatted as written narratives, vignettes can also be presented as audio segments, photographs or videos.[18 21]

Empirical studies use different definitions of the vignette and provide little detail about how it is developed and used to collect data.[15 19 21] Such methodological inconsistencies raise questions about the quality criteria of this qualitative approach.[17] Concerns have also been expressed around whether data collection approaches ensure an appropriate distance between the occurrence of sensitive events and the interview,[19] and around the need to mitigate the risk that participants provide socially desirable responses.[15] Finally, our preliminary search for studies using vignette-based methodology to collect qualitative data from professionals in cancer care found only one study.[22] These factors emphasize the need to arrive at a working definition of this approach to inform data collection in subsequent qualitative studies and provide the rationale for this scoping review.[23 24]

This study aims to clarify the definition of vignette-based methodology in qualitative research, and to identify key elements underpinning its development and utilization in empirical studies involving healthcare professionals.

METHODS

This scoping review mobilizes the Joanna Briggs Institute (JBI)'s methodological guidelines,[23] which build upon the seminal works of Arksey and O'Malley[25] and Levac *et al*.[26] Scoping reviews examine the number, range, and nature of studies relevant to a particular research question and are used to analyze and report available evidence.[27] The present scoping review follows the steps described by Peters *et al*.[23] The Preferred Reporting Items for Systematic reviews and Meta-analyses extension for Scoping Reviews (PRISMA-ScR) checklist criteria[24] are followed to report results (Appendix 1). The protocol was registered prospectively with the Open Science Framework on July 1st, 2020 (https://osf.io/muz4x/?view_only=5943aa0ffb6541d6979ebeedba7464cb).

Ethics approval

No research ethics board approval was required since the data were publicly accessible.

Patient and public involvement

No patients or public involved in carrying out this scoping review.

Scoping review questions

The questions of the scoping review have a methodological focus: 1) How has vignette-based methodology in qualitative research been defined?; 2) What steps have been involved in developing vignettes to collect qualitative data in studies involving healthcare professionals?; and 3) How is vignette-based methodology utilized to collect qualitative data from healthcare professionals?

Planned approach

The Population/participants, Concept, Context (PCC) framework, with the addition of the type of evidence source (type of study, type of publication), is used to guide the selection of eligibility criteria and the search strategy[23 28]. PCC generally allows a wide range of articles to be considered for inclusion. The concept of interest is the vignette as used in qualitative research. A preliminary search of qualitative vignette-based methodology development and utilization with cancer team members found only one study. Therefore, the search was expanded to include qualitative studies as well as systematic and scoping reviews (type of evidence source) in healthcare contexts other than oncology (context), with healthcare professionals in both practice and educational settings (population/participants).

Eligibility criteria

Inclusion criteria were: a) empirical studies with specific focus and/or statements about the development or utilization of vignettes in qualitative studies involving healthcare professionals in clinical practice, training or continuing education; b) qualitative study design (action research, intervention research with clinical or educational application, professional practice-based initiatives); c) written in English or French; d) published between January 2000 and December 2020 in journals listed in electronic databases. The search was limited to 2000 due to the very small number of publications prior to that year using vignettes in qualitative research involving

healthcare professionals. Exclusion criteria were: a) absence of the word "vignette" in title, in order to target studies with a clear focus on methodological development or use in qualitative research; b) background articles or other articles that did not report outcomes from use of vignettes in qualitative data collection; c) studies using vignette with quantitative or mixed methods design; d) studies reported in grey literature; e) articles without an abstract.

Search strategy

Research team members including researchers and professionals from various disciplines (e.g. nursing, psychology, economics, human resources management, medicine) were involved in search strategy pre-planning. An academic librarian contributed to determining the databases, search terms, boolean operators and query modifiers (Appendix 2). A total of 5 peer-reviewed online databases were searched: Academic Search Complete, CINAHL Plus, MEDLINE, PsycINFO, SocINDEX. The search was supplemented by hand-searching reference lists.

Source of evidence screening and selection

Articles were uploaded to Rayyan, a cloud-based application for systematic reviews.[29] Duplicates were removed before undertaking the 3-step screening process:[30] title, abstract and full-text assessment. Two reviewers (DT, AT) independently completed each screening step.[31] Disagreements on article selection and on reasons for exclusion were resolved by consensus through discussion between the two reviewers and two other team members (SL, EG). Reviewers selected and applied the highest reason for exclusion from a screening criteria priority list, which was agreed upon ahead of time.

Data extraction and analysis

Data extraction was performed in two cycles, according to Peters *et al.*'s recommendations on key information to extract.[23] The first cycle aimed to describe study characteristics (e.g. authors, country and year of publication, study phenomenon, setting). The second cycle was based on a thematic analysis for data condensation.[32] The coding grid aligned with our review questions: vignette definition; vignette development (steps described, actors involved/developers, source and format of vignette content); vignette utilization (study participants, delivery method, introduction items, vignette presentation and handling, interview process, design and strategy for

data analysis); strengths and limitations relating to vignette development or utilization, advantages or disadvantages of using the vignette, and recommendations reported by authors. The coding approach was defined by consensus between research team members (DT, AT, SL, EG). Data extraction was performed using QDA Miner (version 5.0.34).[33]

A thematic analysis on the development and utilization of vignettes, as well as recommendations from authors that emerged from the reviewed articles, were synthesized in charting tables. Several research team meetings were carried out during the iterative data extraction and analysis process. Data matrices were used to display the findings according to the scoping review questions.

RESULTS

Search results

The removal of duplicates and the addition of one record from hand-searching left 157 potentially eligible articles. Screening by title excluded 127 articles, while screening of abstracts excluded 14 more. Full-text assessment excluded an additional 6 articles. The main reasons for exclusion were wrong concept (not vignette-based methodology in qualitative research) and wrong population (not healthcare professionals). A total of 10 articles were eligible for inclusion in the review. Search results are presented in a flow diagram[34] (Figure 1).

Figure 1: PRISMA flow diagram of article selection process

Characteristics of included studies

Included studies are published between 2002 and 2020, and involve healthcare professionals from four countries: Australia,[35] Canada,[22 36] Norway,[37] and the United Kingdom.[38-43] Study settings include oncology, primary care, mental health, public health, hospital care, health and social work, health education and critical care. Various phenomena are investigated, such as quality of care related to professional practices, understanding of policy issues, appreciation of health services, perceptions towards patients, and moral or ethical issues. These characteristics are included in tables in the next sections.

Vignette-based methodology in qualitative research

The first question in this review concerns how studies define the vignette-based methodology in qualitative research. While a definition is missing in two articles,[40 41] four articles [22 36 38 39] provide an original definition informed by one or more key references. For example, Morrison (2015) defines vignettes as "*carefully designed short stories about a specific scenario presented to informants to prompt discussion related to their perceptions, beliefs, and attitudes*".[36, p. 362] The other four articles refer to key authors without giving an explicit definition.[35 37 42 43]

Vignettes are referred to as short stories about hypothetical characters in specified circumstances, that participants are invited to respond to.[35 36 38 42 43] Other elements specified in definitions include the form of the vignette (e.g. text[39]), the nature of the stories or scenarios (e.g. simulations of real events, fictional, or composite[38 43]), or the aim of the vignette (e.g. to elicit individuals' perceptions, attitudes, beliefs, and social norms[36 38]).

Methodological development of vignettes for qualitative research

The second question of interest pertains to the methodological steps involved in developing a vignette to collect qualitative data from healthcare professionals. Table 1 presents a description of the vignettes in each study, the extent to which development steps are reported, as well as the steps and actors involved in vignette development.

Vignettes are designed as stories,[40] scenarios,[35 38 42 43] clinical situations emerging along the cancer trajectory,[22] or descriptions of a plausible individual or social situation.[36 37 39 41] Including 1 to 20 situations, they are presented in written narrative form in all studies but one, which combines narratives and photographs.[36] Three studies use temporally-sequenced vignettes.[22 38 40] To emphasize the plausibility of the content, six articles mention the source of inspiration: real-life clinical situations or patient experiences,[22 36 39 41] observational research,[43] or situations involving ethical challenges seen in field study.[37]

The steps used to develop the vignette are clearly described in four studies. In the other studies, authors are either vague about the steps[36 40 43] or provide minimal to no information.[39 41 42] Although the number of steps ranges from 2 to 8, with various degrees of specification, design and pretesting appear as the most common steps to arrive at the version of the research vignette

delivered in interviews. Other steps involve establishing the vignette content and format, and choosing a delivery approach (e.g. individual or group interview). Drawn either from literature (e.g. knowledge from reviews, existing frameworks or guidelines) or from empirical studies, the content is either developed by researchers, sometimes with input from clinical experts[22] or exploratory focus groups of individuals similar to research participants.[38]

Strategies are described to improve the internal validity of vignettes (relevance, reliability, effectiveness, completeness, familiarity and intelligibility). Three studies stress the importance of reviewing vignette content, conducting a survey with respondents similar to the targeted audience[37] or obtaining feedback from experts.[35 43] Vignettes are pretested in six studies, through piloting with experts[39 40] or individuals[35] or through group discussion[22 38]); one study mentions testing the vignettes and interview protocol without providing further detail.[36] Other strategies to improve internal validity include: use of a panel of experts,[38-40 43] use of primary research data[36-39] or framework[22] to develop the content; removal of elements from the vignettes that may bias the interviews;[37] and selecting a small number of scenarios (up to four) to be included in the vignette.[37]

Strategies to increase generalizability include making the vignettes realistic[36 37 43] and comparing pretest responses from experts with responses anticipated by the research team.[22] Researchers[22 35 37 38 40 43] also mention making changes to content, format, or delivery method as needed throughout validation and/or pretesting steps to assure internal and external validity.

Table 1: Description of vignette development in included studies

			Development steps with actors involved								
Study	**Vignette**	**Number of steps**	**Content (based on)**	**Format**	**Choice of approach**	**Interview questions**	**Preliminary versions**	**Anticipated responses**	**External validation / review**	**Pretest**	**Final version**
Andrews *et al*, 2020[39] **United Kingdom** Primary care – Self-monitoring of blood pressure	6 short sections on multiple points of care	M	R (S)	W	–	R	–	–	–	R, E	R
Cazale *et al*, 2006[22] **Canada** Oncology – Professional practices in cancer care	Clinical vignette, sequence of 4 events from the care coordination of a cancer patient	6	R (Li)	W	R	–	R, E	R	–	R, A	R
Holley and Gillard, 2018[38] **United Kingdom** Mental health – Understandings of risk and recovery	5 sequential scenarios on issues of living in the community with serious mental illness	2	R, A (Li, S)	W	–	R	R	R	–	R, A	R
Jackson *et al*, 2015[35] **Australia** Public health – Promotion of unhealthy foods and beverages	10 scenarios of marketing practices of a fictional multinational confectionery company	8	R (Li)	W	R	–	R	–	R, E	R, A	R
Johnson *et al*, 2005[40] **United Kingdom** Hospital and primary care – Role of advice in diabetes foot care	Continuous story in 6 stages of a patient with diabetes-related foot complications	DD	R (Li)	W	R	R	R	–	–	R, E	R
Morrison, 2015[36] **Canada** Oncology – Support in cancer survivors' work integration	7 combinations of photographs and narratives, reflective of cancer survivors' experiences of work integration	DD	R (S)	P, W	–	R	R	–	–	R	R

			Development steps with actors involved								
Study	**Vignette**	**Number of steps**	**Content (based on)**	**Format**	**Choice of approach**	**Interview questions**	**Preliminary versions**	**Anticipated responses**	**External validation / review**	**Pretest**	**Final version**
Østby and Bjørkly, 2011[37] **Norway** Health and social work – Ethical challenges in interactions	4 short, open-ended descriptions of interactions between people with intellectual disabilities and care staff	6	R (S)	W	–	R	R	–	R, A	–	R
Richman and Mercer, 2002[42] **United Kingdom** Psychiatric hospital – Discursive structures of nurses	12 short scenarios detailing case histories of a high-risk patient (6 white/6 black)	M	R (Li)	W	R	–	–	–	–	–	R
Spalding and Phillips, 2007[43] **United Kingdom** Health education – Preoperative education practice	1 snapshot, 20 portraits and 1 composite, within an action research to improve preoperative education	DD	R (S)	W	R	–	R	–	R, E	–	R
Thompson *et al*, 2003[41] **United Kingdom** Critical care – Adherence to advance directives	1 clinical vignette of a fictitious patient who had signed an advance directive before developing dementia	M	R (–)	W	–	R	–	–	–	–	R

Legend: –: Not reported; **Number of steps**: Number if clearly stated; DD: diffusely discussed; M: minimally or not discussed / **Actors involved**: A: Targeted audience; E: Experts; R: Researcher(s) / **Content based on**: Li: Literature, including knowledge from reviews, existing frameworks or guidelines; S: Empirical study conducted / **Format**: P: Photographs; W: Written

Utilization of vignette-based methodology in qualitative research

The third question we explore in the review is how vignette-based methodology is used to collect qualitative data from healthcare professionals (Table 2).

Studies employ convenience[37] or purposive[35 36 38 39 41] sampling to determine inclusion and exclusion criteria for participants. Sociodemographics (age, gender or sex, years of experience) are reported in three studies,[37 39 41] while participants' profession is reported in all studies.

Vignettes are delivered through individual interviews in seven studies.[35-38 40-42] The number of individuals varies from 8 to 30. Four studies present the vignettes in group interviews[22 39 41] or team meetings[43] of 2 to 14 participants. Johnson *et al*[40] consider that individual interviews are best suited to explore professionals' personal views, for logistical reasons and to reduce the risk of inhibiting expression due to power differentials between participants. In contrast, Cazale *et al*[22] use focus groups to observe the interaction between participants, which seems promising to generate data in their study aimed at assessing the quality of care provided by interdisciplinary teams. One study[41] uses both individual and group interviews, without explicit justification.

Six studies report that researchers introduced study objectives to participants, explained ground rules such as confidentiality, the interview procedure, and assured them there were no right or wrong answers. This is similar to other qualitative methods.

Various interviewing approaches are adopted in the studies: open discussion, semi-structured or structured. Interview guides are used in five studies.[36-40] All studies include questions about the participants' perceptions, views or beliefs regarding their own experiences or practices. One study includes questions to elicit participants' thoughts on whether the vignette content reflects their personal experience (plausibility).[38] Another adds questions on how others may have interpreted or behaved in a similar situation, which helps verify that the vignettes describe real-life practice situations and thus contributes to establishing their validity.[37]

Some note that the method is generally well received by participants,[35 36] despite two health professionals who "*opined that the vignettes were unnecessary to facilitate the dialogue that could have been accomplished by direct questioning*".[36, p. 369] Certain issues are also reported

regarding the quality of the answers elicited (e.g. answers from own perspective instead of others'; answers to avoid disclosing confidential or problematic information; answers tailored to social desirability).[35 37 38]

Various qualitative design and data analysis approaches are employed, including thematic analysis of interview responses, hermeneutic analysis, Framework analysis, Interpretive Description, or Modified Grounded Theory. Only three studies include information on reliability assessment using content validation by experts, pre-test or interview modalities.[22 39 41]

Table 2: Description of vignette-based methodology utilization in included studies

Study	Participants	Delivery approach	Introduction	Presentation / Handling	Interview process	Design and data analysis
Andrews *et al*, 2020[39] United Kingdom Primary care – Self-monitoring of blood pressure	Physicians (n=14); Nurses (n=7) Total (n=21)	• Focus groups (n=5) • 2-8 per group • 1 hour	• Not reported	• Each vignette read out by researcher	• Semi-structured • Interview guide • One question on vignette with 2-5 follow-up questions on participants' experiences	• Thematic Analysis • Transcribed verbatim • Field notes • Validation by 3 researchers
Cazale *et al*, 2006[22] Canada Oncology – Professional practices in cancer care	Interdisciplinary teams of clinicians in oncology Total (n=41)	• Focus groups (n=5) • 5-14 per group • 1 hour	• Study objectives • Ground rules	• Each event presented by expert consultant • Sequential	• Semi-structured • One open-ended question per event on participants' own actual practices • Low control / high process style of moderation	• Coding base: cancer program guidelines • Transcribed verbatim • Field notes • Intercoder reliability assessment by 2 researchers
Holley and Gillard, 2018[38] United Kingdom Mental health – Understandings of risk and recovery	Psychiatrists, mental health professionals (n=8); Service users (n=8) Total (n=16)	• Individual interviews	• Participants' demographics	• Each vignette presented by researcher • Sequential	• Interview guide • Open-ended questions (n=not reported) on participants' thoughts about the vignettes and their own experiences in similar circumstances	• Thematic Analysis • Transcribed verbatim
Jackson *et al*, 2015[35] Australia Public health – Promotion of unhealthy foods and beverages	Public health professionals (n=10); Marketing and industry professionals (n=11) Total (n=21)	• Individual interviews • In person or by phone	• Ground rules	• Email prior to phone interview • Each scenario read by participant or researcher • One by one	• Open discussion on perceived challenges, threats and opportunities, drawing on professional background, opinions or experiences • Prompts to further explore threats or challenges	• Hermeneutic Analysis • Transcribed verbatim • Field notes • Research journal
Johnson *et al*, 2005[40] United Kingdom Hospital and primary care – Role of advice in diabetes foot care	Healthcare professionals, consultants, physicians, specialists (n=15); Patients (n=15) Total (n=30)	• Individual interviews	• Study objectives • Ground rules	• Each stage presented visually and verbally by researcher • Sequential	• Interview guide • 1-2 open-ended questions per sequence, on participants' views about services to patients • Participant's own issues discussed at the end	• Framework Analysis with coding • Transcribed verbatim

Study	Participants	Delivery approach	Introduction	Presentation / Handling	Interview process	Design and data analysis
Morrison, 2015[36] **Canada** Oncology – Support in cancer survivors' work integration	Oncologists (n=5); Physicians (n=5) Total (n=10)	• Individual interviews • 1-1.25 hours	• Participants' demographics	• Stack of vignettes evidently placed • Each read and kept by participant until taken by researcher • One by one	• Semi-structured • Interview guide • Open discussion on perspectives, beliefs, attitudes and behaviours	• Interpretive Description • Transcribed verbatim
Østby and Bjørkly, 2011[37] **Norway** Health and social work – Ethical challenges in interactions	Social educators Total (n=8)	• Individual interviews	• Ground rules	• One by one	• Interview guide • 2 sets of 3 questions with 3 follow-up subquestions: 1st set on participant's reflections and actions; 2nd set on views of how others would have reflected on or behaved • Additional question to assess vignette familiarity and relevance	• Not reported
Richman and Mercer, 2002[42] **United Kingdom** Psychiatric hospital – Discursive structures of nurses	Clinical nurses Total (n=30)	• Individual interviews • 0.75-2 hours	• Not reported	• Vignettes selected and read by participant	• Open discussion on participants' own practice experiences, emotional reactions, and larger cultural and media representations	• Not reported
Spalding and Phillips, 2007[43] **United Kingdom** Health education – Preoperative education practice	Healthcare professionals also presenters of education program Total (n=not reported)	• Team meetings	• Not reported	• Each vignette read by participant	• Open discussion on participants' perceptions, beliefs and meaning	• Not reported
Thompson *et al*, 2003[41] **United Kingdom** Critical care – Adherence to advance directives	Healthcare professionals and specialists from various disciplines Total (n=46)	• Individual interviews (n=12) • Focus groups (n=6) • 4-9 per group	• Not reported	• Critical care vignette shown by researcher	• One planned open-ended question, about the right thing to do	• Modified Grounded Theory • Coding base: topic guide • Transcribed verbatim • Independent coding validation by 3 researchers

Synthesis of recommendations from included studies

A synthesis of the recommendations on vignette development and utilization is presented in Table 3. These are based on analysis of the strengths and limitations reported in the 10 studies included in this scoping review.

Researchers in all the studies report that vignette-based methodology in qualitative research is an effective means of exploring sensitive or difficult topics and eliciting in-depth responses and reflexivity.

Eight authors' recommendations emerge from our scoping review around the methodology for development of vignettes in qualitative research: 1) follow a rigorous step-wise development process;[22 42] 2) involve experts who are knowledgeable informants or a multidisciplinary team in refining content;[22 38] 3) use credible sources such as primary research data, frameworks or literature reviews to develop content;[22 38 39 43] 4) be mindful of participants' availability when determining the number of sections or vignettes;[35 36] 5) avoid content that uses unclear terminology,[38] lacks information (e.g. not the full clinical picture),[38] includes too many variables,[22 35] or leads to particular interpretations or choices;[22 37] 6) provide vignettes that are meaningful and allow participants to identify with and reflect on the story;[36 38 43] 7) use validation strategies and test the quality of the vignette;[37 40] and 8) pay attention to the delivery, including semi-structured interview questions and form of probing [36-38] (e.g. a 3rd person format can help create safe distance to explore difficult topics;[36] consistency in the format: mixing 2nd and 3rd person questions can lead participants to answer most questions based on their personal experience[36]).

Our scoping review further suggests a number of recommendations regarding the utilization of vignette-based methodology: 1) use the vignette consistently with each participant or group of participants to allow systematic data collection;[22 35 40] 2) make sure the interviewer has the skills to conduct individual or group interviews;[22 35 36] 3) recognize and try to discourage socially desirable responses;[35] 4) be cautious about the extent to which it reflects real-world situations for the participants;[35 40 41] 5) add one facilitator and one observer during focus groups;[22] 6) reach

saturation in data collection;[36 37] 7) use validation strategies in data analysis (e.g. intercoder reliability assessment; theme validation)[39] and triangulation to reinforce the quality of results.[22 35]

Table 3: Synthesis of strengths (S), limitations (L) and authors' recommendations in included studies

Study	Vignette development	Vignette utilization
Andrews *et al*, 2020[39] United Kingdom Primary care – Self-monitoring of blood pressure	• Primary data (e.g. excerpts from interviews) to provide authenticity to the study materials (S)	• Coding theme validation by multiple researchers (S) • Participant heterogeneity for larger perspective (L)
Cazale *et al*, 2006[22] Canada Oncology – Professional practices in cancer care	• Explicit development process (S) • Solid framework for development and analysis (S) • Involvement of experts (S) • Content in descriptive tone to avoid socially desirable responses (S) • Avoidance of information overload in vignette (S)	• Utilization to support learning and reflexivity (S) • Skilled facilitator such as external expert (S) • Support from assistant facilitators (S) • Triangulation using multiple data sources (L) • Standardized data collection if multi-site study (L)
Holley and Gillard, 2018[38] United Kingdom Mental health – Understandings of risk and recovery	• Exploratory focus groups to identify content (primary data), for vignette validity (S) • Respondent validity check through feedback focus groups with experts (S) • Prompts on own experiences, as questions on vignette may attract abstract or idealized responses (S) • Content based on sufficient and solid sources to allow validation of vignette (L) • Clear sociodemographic aspects (gender, ethnicity, etc.) in content and when sampling participants, to explore whether vignettes might elicit data that respond to issues of marginalization (L) • Clear definition of concepts used (L) • Presentation of realistic information (L) • Interview guides that allow to explore a full range of possible responses (L)	• Vignette elicited data on the complexities of the participants' roles, while addressing their own responsibilities (S)
Jackson *et al*, 2015[35] Australia Public health – Promotion of unhealthy foods and beverages	• Amount of scenarios and range of concepts (variables) to explore within time available (L) • Scenarios that generate a response but are not too extreme (L)	• Utilization as natural set of parameters for interview discussions, while allowing deeper investigation (S) • Consideration for how participants approach the vignettes (e.g. real-life; micro or macro-level) and how that may lead to socially desirable/guarded responses (S) • Interviewer skills to refocus (S) • Peer-debriefing with research team (S) • Triangulation using various analysis methods (S) • Prolonged engagement with data (S)

Study	Vignette development	Vignette utilization
		• Consistency of vignette utilization (same variables) between research populations for data comparison (S)
Johnson *et al*, 2005[40] **United Kingdom** Hospital and primary care – Role of advice in diabetes foot care	• Test with expert panel and pilot to increase internal validity. (S) • Wrap-up question at the end of the interview (S)	• Consistency of vignette utilization between research populations to allow data comparison (S) • Recognition of difference between potential behavior of fictitious character in vignette and actual experiences of the participant (S)
Morrison, 2015[36] **Canada** Oncology – Support in cancer survivors' work integration	• Content that provides a fair representation of the topic (reality, gravity) (S) • Consideration for the time available for participation (S) • Consideration for the interview questioning format: in third person to create safe distance; consistency in format used (L) • Consideration for number of vignettes (e.g. less than seven) (L)	• Utilization to invoke self-reflection (S) • Reaching saturation (S) • Interviewing skills (L) • Consideration for busy participants (time, distractions) (L)
Østby and Bjørkly, 2011[37] **Norway** Health and social work – Ethical challenges in interactions	• Removal of content that can lead to interpretations and choices (S) • Validation procedure to increase internal validity (S) • Questions and sub-questions designed to reduce socially desirable responses (S) • Questions to improve validity: situation perceived as familiar; own stories about similar situations; ask why? (S) • Triangulation (e.g. with quantitative measures) for further validation (L)	• Validated vignettes for enhanced reflections (S) • Reach of saturation (S)
Richman and Mercer, 2002[42] **United Kingdom** Psychiatric hospital – Discursive structures of nurses	• Decisions about : data for content (existing or constructed data), temporality (static or serial), degree of specialized information (specialised or everyday activities); aims of the project (analytical or prescriptive); medium (written, filmed or oral); role (to test or to generate hypothesis)	• Utilization as a prompt to reflect on personal experiences (S)
Spalding and Phillips, 2007[43] **United Kingdom** Health education – Preoperative education practice	• Primary data to develop vignettes that are meaningful, contextualized, and reflect reality (S)	• Utilization to facilitate reflection within an action research cycle (S)
Thompson *et al*, 2003[41] **United Kingdom** Critical care – Adherence to advance directives	• None relating to development	• Effective stimulus for discussion (S) • Utilization to highlight the gap between knowledge and action (S) • Caution about how vignette reflects the multifactorial arena of decision making in real world (L) • Verification of understanding of terminology used (L)

DISCUSSION

This scoping review contributes to clarify the definition of vignette-based methodology in qualitative research, details its development steps, describes its utilization, and assesses its strengths and limitations based on quality criteria for qualitative studies. It can inform planning of future research employing this qualitative approach. Ten studies are included that involve healthcare professionals in various settings.

Main findings

Our results suggest an expanded use of the vignette as a qualitative methodology. Vignette-based methodology is not commonly used in qualitative studies involving healthcare professionals, despite being recognized as a suitable approach for "reflecting-on" and "reflecting-in" practice.[44] The methodology is well suited to intervention research, establishing partnership between knowledgeable actors from the field and researchers to define a problem and potential solutions.[45]

During the article-screening process, 112 out of 156 articles were excluded due to "wrong concept" (71,7%); that is, they did not address or use vignette-based methodology in qualitative research (see Figure 1). One contributing factor to the high exclusion rate is that many articles used the term "vignette" without defining the term. Vignettes are used in the scientific literature in various ways (clinical case reports, training materials, evaluations of clinician knowledge, etc). Our review findings reveal the need to clearly state "what" is vignette-based methodology in qualitative research and describe the logic of its use by researchers.

Vignettes can be used to describe a phenomenon in multiple contexts that are different from qualitative research. We acknowledge that variation may be appropriate across vignette utilization. However, in qualitative studies, a number of basic principles are considered necessary to assure reliability of analysis: explicit description of the study context and procedures used in data collection and analysis to produce knowledge.[32] Our scoping review shows that vignette-based qualitative research studies often fail to fully describe how these three principles are met. This points to a lack of engagement with standards for reporting qualitative research,[46] and compromises replicability and the utilization of knowledge arising from vignette-

based studies. Finally, standards for reporting qualitative research (SRQR) suggest that the title indicate that the study is qualitative or include a commonly used term that identifies the approach.[47]

In sum, an article title that states the research method, and a clear definition of "vignette" in the report contribute to aligning the research objectives, study design and methods. They allow readers and reviewers to understand the type of vignette study at hand, and support the reliability, transferability and usefulness of results.[48]

Despite the efforts of authors to clarify the concept, less than half the studies included in our review provide an explicit definition. Based on our scoping review, the vignette-based methodology in qualitative research can be defined as evidence- and practice-informed short stories, scenarios, events or situations in specified circumstances, to which individuals or groups are invited to respond.[1 22 36 39]

Details of vignette development are only scarcely reported. Less than half of the studies explicitly report all steps in development. The range of development steps reflects the lack of standardized quality criteria for reporting vignette-based methodology in qualitative research. Greater transparency is needed to establish internal validity and enable study replication, notably around knowledgeable informant involvement in establishing vignette content and/or participating in validation steps.

Our results highlight that vignettes are delivered through individual interviews in most studies, but that some researchers opt for, or add group interviews to meet their study objectives. The choice may depend on whether the study seeks to elicit personal views or interaction between participants. However, the choice of interview approach is not always explained.

Our synthesis of strengths, limitations and authors' recommendations in included articles (see Table 3) provides an overview of what vignette-based methodology adds to the studies. Some advantages highlighted in included articles are not specific to the vignette development and use. For example, it has been mentioned that it allows the interview to be structured, provides a systematic way of collecting data and facilitates saturation. Other contributions appear to be

more specific, notably increasing acceptability to participants when the study phenomenon is sensitive, such as with ethical issues, practice gaps or recovery from challenging clinical situations. By creating a safe distance through use of a fictitious scenario, the method encourages respondents to engage in deeper reflection on sensitive topics that they may otherwise prefer to avoid. More marginally, some authors appreciate the potential flexibility of the vignette (e.g. manipulation of certain characteristics[42]). Some authors[22 37] recommend using the vignette in combination with other methods to compensate for limitations. Additionally, Morrison considers that the vignette is a static approach that does not leave enough room for interactions.[36] This point of view suggests that the vignette may not elicit authentic discussion among participants unless the interviewer has the skills to facilitate exchanges.

Our results raise the need to explicitly consider and report strategies to ensure rigor and transparency in both the development of the vignette and the quality criteria of the wider qualitative study design (credibility, dependability, confirmability, transferability[49]). Even with well-designed vignette-based studies, limitations in external validity must be documented.

The vignette-based methodology in qualitative research has an added value in intervention research in which the definition of problems and solutions is carried out in partnership between healthcare professionals and researchers.[50] After expert consultation and pretesting, a vignette content that allows an in-depth understanding of a complex and highly contextualized phenomenon where a multitude of factors can, alone or in combination, influence the practice in clinical settings. Vignette-based qualitative studies offer the possibility of reflecting on challenging topics and supporting evidence-based decision making and action in practice and in future research.

Strengths and limitations

Although strategies are employed to ensure the rigor of the review process, we recognize several limitations. This scoping review was conducted to inform qualitative data collection from healthcare professionals using a reflexive approach, which explains why quantitative studies were excluded. We recognize that there is considerable use of vignettes in quantitative research**.** Their purpose, and therefore the quality criteria for their use, are categorically different than for

qualitative studies, in terms of both vignette development and utilization. Stakeholders can better understand the complex world of health professionals if researchers move throughout complementary approach to better understand complex issues.[51]

The search strategy is limited to empirical studies retrieved from electronic databases after 2000, and excludes grey literature. It covers only a proportion of published literature using vignettes as a qualitative research approach. We are aware that various search terms (e.g. vignette, scenario, case report, snapshot) carry meanings that may be used interchangeably. What we attempt is not a meta-level synthesis of vignette-based qualitative research, but the pooling of content from included studies in our scoping review.[52] Because our initial interest is to learn from prior use of vignettes in research in healthcare settings, it is possible that included articles reflect a selection bias related to our methodological focus. The small number of eligible studies reduces the robustness of recommendations for the development and utilization of vignette-based methodology in qualitative research. The number may reflect our decision to include only articles that feature "vignette" in their title. Moreover, screening was challenging because studies provided little detail about how the eligibility of professional participants was determined or what qualitative approach was used, and mixed-methods was an exclusion criteria in our search strategy.

Despite these limitations, we consider that the evidence around the development steps and utilization of vignettes that emerges from our scoping review helps deepen our understanding of the method and provides valuable recommendations for future research. While Peters *et al* (2020)[23] suggest that information scientists, stakeholders and/or experts may be consulted to validate the interpretations of scoping reviews, this step appears unnecessary given the diversity of our research team and the small number of included articles.

CONCLUSION

This scoping review generates a summary of vignette-based methodology and offers guidance regarding the development and use of vignettes in qualitative research involving healthcare professionals, which can be applied in various settings including oncology. Future research may contribute to overcoming identified risks to quality by reporting: 1) an explicit definition of

vignette-based methodology as for all qualitative study design; 2) details about vignette development steps (internal validity); 3) rich description of vignette utilization (external validity); and 4) strengths and limitations based on quality criteria for qualitative studies.

It is expected that future research will more systematically plan and document the development and utilization of vignette-based methodology, and report the research process with sufficient detail to establish how the plausible content of the vignette is associated with study results. Future publications should take into account recommendations from the studies reported in this scoping review and integrate reporting on quality criteria.

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DECLARATION OF COMPETING INTERESTS

None declared.

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CONTRIBUTORSHIP STATEMENT

DT designed and coordinated the study and led the entire scoping review process. She accepts full responsibility for the finished work and the conduct of the study, had access to the data, and controlled the decision to publish. She drafted the first version of the manuscript with AT and SL. AT, NT were involved in the data analysis and data charting. NT, TGP, KK, KB, SL and EG

assisted with study planning, data collection and final interpretation. All authors (DT, AT, NT, TGP, KK, KB, MR, POR, SL, and EG) critically revised the draft version and read and approved the final manuscript.

DATA AVAILABILITY STATEMENT

All data relevant to the scoping review are from published articles available in electronic databases.

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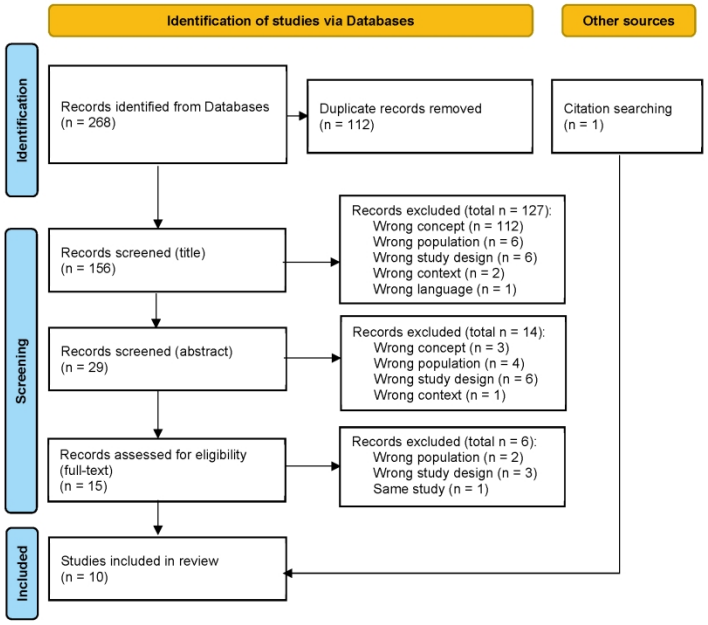
FIGURE LEGENDS

Figure 1: PRISMA flow diagram of article selection process

Adapted from: Page MJ, McKenzie JE, Bossuyt PM *et al*. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n7



Adapted from: Page MJ, McKenzie JE, Bossuyt PM et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n7

215x279mm (300 x 300 DPI)

APPENDIX I: Preferred Reporting Items For Systematic Reviews And Meta-Analyses Extension For Scoping Reviews (PRISMA-ScR) Checklist

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	1
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	2-3
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	5-6
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	6-7
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	6
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	7-8
Information sources	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	8
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	8; Appendix 2
Selection of sources of evidence	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	8
Data charting process	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	9
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	8-9

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
Critical appraisal of individual sources of evidence	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	N/A
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	9
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	9; Figure 1
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	9; 12-13; 16-17; 20-21
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	N/A
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	9; 12-13; 16-17; 20-21
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	9-11; 14-15; 18-19
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	22-23
Limitations	20	Discuss the limitations of the scoping review process.	24-25
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	25-26
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	26

From: Tricco AC, Lillie E, Zarin W, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. Ann Intern Med. 2018;169:467–473.

APPENDIX 2: Search strategy

Databases searched: Academic Search Complete, CINAHL Plus, MEDLINE, PsycINFO, SocINDEX

Search strategy for all databases searched

Search limit: Published date from 2000-01-01 to 2020-12-31

ID	Search terms
S1	vignette* N5 (stud* OR method* OR design OR research* OR develop*)
S2	health*
S3	qualitative OR "scoping review" OR "system* review"
S4	clinician* OR physician* OR nurs* OR "health* personnel" OR ((health* OR professional*) N2 (health* OR practice* OR regulation* OR development* OR competence*))
S5	**S1 AND S2 AND S3 AND S4**