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Review

Physician–patient–companion communication and decision-making: A systematic review of triadic medical consultations

R.C. Laidsaar-Powell [a,*], P.N. Butow [a], S. Bu [a], C. Charles [b], A. Gafni [b], W.W.T. Lam [c], J. Jansen [d], K.J. McCaffery [d], H.L. Shepherd [a], M.H.N. Tattersall [e], I. Juraskova [a]

[a] Centre for Medical Psychology and Evidence-based Decision-making (CeMPED), The University of Sydney, Sydney, Australia
[b] Department of Clinical Epidemiology and Biostatistics and Centre for Health and Policy Analysis (CHEPA), McMaster University, Hamilton, Canada
[c] Department of Community Medicine, School of Public Health, The University of Hong Kong, Hong Kong
[d] Screening and Diagnostic Test Evaluation Program (STEP), Sydney School of Public Health, The University of Sydney, Sydney, Australia
[e] Department of Cancer Medicine, The University of Sydney, Sydney, Australia

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ABSTRACT

Objective: To systematically review quantitative and qualitative studies exploring physician–adult patient–adult companion (triadic) communication and/or decision-making within all medical encounters.

Methods: Studies were identified via database searches and reference lists. One author assessed eligibility of studies, verified by two co-authors. Data were extracted by one author and cross-checked for accuracy. Two authors assessed the quality of included articles using standardized criteria.

Results: Of the 8409 titles identified, 52 studies were included. Summary statements and tables were developed for each of five identified themes. Results indicated companions regularly attended consultations, were frequently perceived as helpful, and assumed a variety of roles. However, their involvement often raised challenges. Patients with increased need were more often accompanied. Some companion behaviours were felt to be more helpful (e.g. informational support) and less helpful (e.g. dominating/demanding behaviours), and preferences for involvement varied widely.

Conclusion: Triadic communication in medical encounters can be helpful but challenging. Based on analysis of included studies, preliminary strategies for health professionals are proposed.

Practice implications: Preliminary strategies for health professionals include (i) encourage/involve companions, (ii) highlight helpful companion behaviours, (iii) clarify and agree upon role preferences of patient/companions. Future studies should develop and evaluate specific strategies for optimizing triadic consultations.

1. Background

Literature on medical communication has primarily focused on physician–patient relations, leaving the influence of companions (e.g. spouses, family members, friends) relatively unexplored. Despite this, a diverse, albeit disjointed, literature base has begun to highlight the important role companions play during medical consultations.

Companions often accompany patients into the consultation, provide emotional, informational, or practical support [1], and participate in medical decision-making [2]. Companions can change the dynamics of the consultation, influence the patient's relationship with the physician, and increase the complexity of the encounter [3]. To date, there has been little translation of research findings into guidance for physicians regarding how best to conduct consultations when a companion is present. A limited number of preliminary articles have suggested practical strategies; however these remain untested [4–6].

Further, there has been little synthesis of information in this area, potentially due to: diverse disciplines investigating the topic (e.g. medicine, linguistics, sociology, psychology), the range of consultations under investigation (e.g. geriatrics, oncology, diabetes, primary care) and the wide variation in terminologies used to describe the topic area (e.g. carer, companion, family, relative, third-person, kin). The need for such synthesis is reflected in the recent publication, by Wolff and Roter [7] of their meta-analytic review of provider–patient–companion consultations. Wolff and Roter [7] provided an overview of some of the characteristics and impacts of patient accompaniment. As Wolff and Roter [7]

* Corresponding author at: Transient Building (F12), The University of Sydney, NSW 2006, Australia. Tel.: +61 2 9036 5289; fax: +61 2 9036 5292.
E-mail address: rpow2608@uni.sydney.edu.au (R.C. Laidsaar-Powell).

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conducted a meta-analysis, they were restricted to include only quantitative studies ($n = 17$), and limited the meta analysis to routine medical visits. Therefore a wealth of relevant qualitative and quantitative studies remain unexamined.

Qualitative studies can provide depth of information and increased understanding of attitudes and behaviours. Since there are a number of relevant qualitative studies in this area, the current review aimed to take a broader perspective on the triadic literature. In addition, our broader inclusion criteria enabled discussion of several areas unexplored by Wolff and Roter, including: (i) the roles of companions, (ii) the attitudes of each party towards companion involvement, and (iii) preferences towards, and dynamics of, triadic medical decision-making. The current review provides a more exhaustive and detailed analysis of the doctor–patient–companion literature base, with inclusion of 52 quantitative and qualitative studies across a range of illness types (primary care, oncology, diabetes, cardiovascular disease) and severities (routine visit, newly diagnosed, seriously ill, end-of-life).

The aim of the systematic review is to assess available studies that examine the nature of triadic (physician–adult patient–adult companion) communication and decision-making within all medical encounters. The scope of this review is restricted to studies describing cognitively competent adult patients with adult companions (e.g. spouse, family member, friend).

2. Methods

2.1. Search strategy

A search of relevant databases (i.e. PsycINFO, MEDLINE, CINAHL, EMBASE, SCOPUS, Sociological Abstracts, Proquest Social Science Journals) was conducted. Search results were limited to articles published from 1950 to July 2011. Due to the varied nature of keywords in this field, a comprehensive list of search terms was developed (see Box 1). The returned search results were screened for irrelevant articles, review papers, and duplicates. An eligibility checklist was developed (see Box 2) to guide the selection of appropriate studies. Decisions regarding inclusion/exclusion were first made by one author (RLP) and then verified by two co-authors (IJ and PB). Reference lists of included articles, and any studies which have cited these, were searched for relevant articles.

Box 1. Database search terms

(Triad* or companion or relative or famil* or third person or family involvement or carer or caregiver or husband or wife or spouse or accompan* or significant other*)
AND
(Consultation or medical encounter or medical visit or medical setting or physician or doctor)
AND
(Illness or disease or chronic or cancer or heart or diabetes or general practi* or oncolog*)
AND
(Communicat* or decision* or decision making or collaborat* or coalition)
NOT
(Pediatric* or Alzheimer* or dementia)

2.2. Data extraction

Both inductive and deductive data extraction techniques were utilized. All studies were initially analysed inductively to determine broad themes describing the literature base. Specifically, one author (RLP) assessed each study and recorded the main aims and findings. Similar findings were grouped according to topic area and a preliminary list of themes was developed. Three authors (RLP, PB and IJ) engaged in iterative discussions about organization of findings, after which the final five themes were decided. Deductive data extraction techniques were subsequently used to re-examine each study and extract data using a standard format (design, method, sample, measures, results and summary). Data were extracted by one author (SB) and cross checked for accuracy by another author (RLP).

2.3. Quality assessment

The quality of included studies was based on the standardized Qualsyst assessment tool [8]. Qualsyst consists of two separate scoring systems to evaluate study quality; a quantitative scale and a qualitative scale (see Boxes 3 and 4). This assessment tool was selected because it included an extensive manual for quality scoring with definitions and detailed instructions. One author (SB)

Box 2. Eligibility Criteria (*with exclusion criteria*)

Types of studies:	Quantitative or qualitative (primary and secondary analyses of data sets) studies including: – Interviews/focus groups – Surveys – Consultation audit-studies (audio- or video-taped consultations, consultation observation) *Exclusion: Review papers, editorials, commentary/discussion papers, papers published in languages other than English, papers not available in full text*
Types of participants:	Triadic communication/decision-making must have included one of the following participants: – Adult patients (>18 years) *Exclusion: Studies where patients not able to fully engage in the consultation (e.g. patients with dementia, minors, unconscious patients)* – Adult companions involved in the consultation (including spouse, family members, friends) *Exclusion: Studies where the companion had a unique responsibility (e.g. paid caregiver, proxy)* – Physicians *Exclusion: Studies which only examined triadic communication with a nurse, or allied health professional (e.g. psychologist)*
Types of settings:	Any type of medical setting (including but not limited to: oncology, general practice, geriatrics, rehabilitation, diabetes)
Types of communication:	Any form of physician–patient–companion communication and/or decision-making *Exclusion: Studies which examined communication between only two members of the triad (e.g. patient–companion communication outside of the consultation)*

Box 3. Checklist for assessing the quality of quantitative studies (Kmet et al. [8])

	Criteria
1	Question/objective sufficiently described?
2	Study design evident and appropriate?
3	Method of subject/comparison group selection or source of information/input variables described and appropriate?
4	Subject (and comparison group, if applicable) characteristics sufficiently described?
5	If interventional and random allocation was possible, was it described?
6	If interventional and blinding of investigators was possible, was it reported?
7	If interventional and blinding of subjects was possible, was it reported?
8	Outcome and (if applicable) exposure measure(s) well defined and robust to measurement/misclassification bias> Means of assessment reported?
9	Sample size appropriate?
10	Analytic methods described/justified and appropriate?
11	Some estimate of variance is reported for the main results?
12	Controlled for confounding?
13	Results reported in sufficient detail?
14	Conclusions supported by results?

assessed the quality of all studies and another author (RLP) assessed 50% of the studies. Cohen's Kappa, used to determine inter-rater reliability, was 0.61 between the two raters; indicating substantial agreement according to Landis and Koch's standards for interpretation [9]. Agreement was defined as the proportion of items where both raters gave the same score (e.g. 0, 1, or 2). Disagreement was defined as the proportion of items where both raters did not reach the same score (e.g. a score of 1 from SB, a score of 2 from RLP). Any identified discrepancies were resolved through iterative discussions. Each study was allocated a final score, which, as defined by Lee et al. [10], was used to define the quality of the study as: limited (<50%), adequate (50–70%), good (71–80%), or strong (score of >80%). The quality of included studies is also reported in the summary tables (see Appendix A), with endnotes to clarify which aspects of each study scored a rating of *partial* (not fully addressed) or *no* (not evident or inappropriate). For full definitions and instructions for quality scoring, see Kmet et al. [8].

3. Results

The search strategy produced 8409 references, most of which were not specifically relevant to the current topic but broadly related to illness and medical consultations. After deletion of duplicates and detailed assessment for eligibility, 52 studies were included (see Fig. 1).

Box 4. Check list for assessing the quality of qualitative studies (Kmet et al. [8])

	Criteria
1	Question/objective sufficiently described?
2	Study design evident and appropriate?
3	Context for the study clear?
4	Connection to a theoretical framework/wider body of knowledge?
5	Sampling strategy described, relevant and justified?
6	Data collection methods clearly described and systematic?
7	Data analysis clearly described and systematic?
8	Use of verification procedure(s) to establish credibility?
9	Conclusions supported by the results?
10	Reflexivity of the account?

Examination of selected studies revealed five primary themes, which were used to guide organization of review findings. Theme 1, *patient, companion, and consultation characteristics* discusses the features of triadic consultations, characteristics of accompanied versus unaccompanied patients or consultations, and characteristics of companions. Theme 2, *companion roles*, highlights the overall categories of a companion's role in the consultation and the main reasons for a companion's attendance at a consultation. Studies which coded the presence/absence of discrete companion behaviours (e.g. *companion prompts patient to ask question*) were not included in this theme. Theme 3, *attitudes of patients, companions, and physicians towards companion involvement*, explores each parties' opinions and experiences of triadic communication. Theme 4, *attitudes towards, and patterns of, triadic decision-making*, highlights studies exploring medical decisions within triadic consultations. Finally, theme 5, *impact of companion involvement on patient and physician ratings*, is a summary of the positive and negative changes/consequences, reported by patients or healthcare providers, as a result of companion participation (e.g. patient satisfaction, patient understanding of information, family conflict, physician overburden). Findings relevant to each primary theme are described in detail within summary tables (see Tables 1–5 in Appendix A), with as much relevant information included as possible (some studies did not report information such as response rates or statistical values). Tables are summarized in text using summary statements. Wherever discrepant results were found, we attempted to look further into the data to uncover any characteristics which explained the findings. Studies that addressed more than one of the five themes are listed in each relevant table and include the measures, and results specific to the theme. Studies included in Tables 1, 2 and 5 are organized under the sub-categories of *quantitative, qualitative*, or *mixed methods.* Studies included in Tables 3 and 4 are organized under sub-categories of attitudes of *patients, companions, physicians*, or *2+ members of the triad.* Within each sub-category, studies are ordered according to their quality rating (highest to lowest).

3.1. Theme 1: Patient, companion, and consultation characteristics

Twenty-eight studies examined the characteristics of triadic consultations, including the nature of triadic consultations (e.g. length of visit), characteristics of accompanied versus unaccompanied patients, and characteristics of companions attending consultations (see Table 1). The majority of studies were of good to strong quality (>70% in quality ratings) and used quantitative methods; with thirteen of the studies involving analyses of audio- or video-tapes of actual medical encounters [2,11–22]. There were little differences between the quantitative and qualitative results for this theme. The nine studies that reported accompaniment rates highlighted variation according to patient population. Adult patients who attended primary care or outpatient clinics had the lowest accompaniment rate (16–25%) [21,23–25], this rate increased in older patients (aged > 60 years) who visited a primary care, geriatric or outpatient clinic (36–57%) [15,21,26–28]. Within oncology consultations, 64% of patients were accompanied in one study [11], and the accompaniment rate increased to 86% in a study of oncology consultations where 'bad news' was disclosed [17]. The majority of studies (17 out of 28) included in this theme sampled both accompanied and unaccompanied patients to enable comparison of dyadic versus triadic consultations [1,11,12,14–16,18,20,22–30] (see Sections 3.1.1 and 3.1.2), whilst the remaining 11 studies explored the characteristics of only triadic consultations, without the comparison component [2,3,13,17,19,21,31–35] (included only in Section 3.1.3).

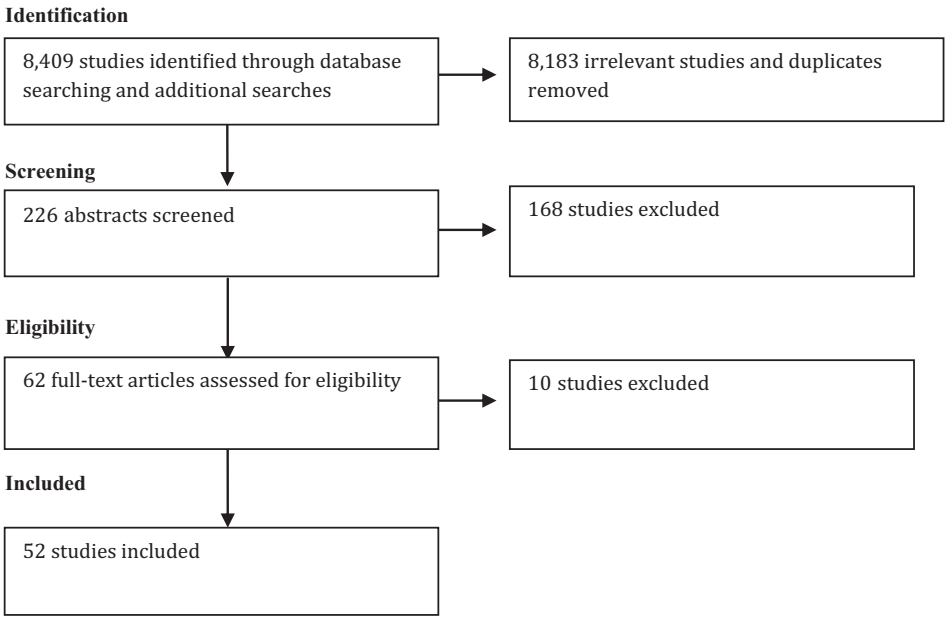

Fig. 1. Flow diagram of study selection.

3.1.1. Demographic characteristics of unaccompanied versus accompanied patients

The demographic characteristics of accompanied patients appeared to differ from unaccompanied patients. Although inconsistent, quantitative results indicated that accompanied patients were more likely to be older, female, less educated, and in worse physical health. Specifically, six studies found that accompanied patients were older than unaccompanied patients [1,15,18,24,25,30]; while five found no difference in age [11,20,22,26,27]. Upon examining these differences, it appears that illness severity may partially explain this discrepancy as three of the five studies which found no difference in age were conducted with cancer patients, whereas all of the studies which found differences in accompaniment rate by age were in geriatric or primary care settings. Two studies found that accompanied patients were more likely to be female [26,27] and three studies found no difference in sex [14,20,22]. The two studies indicating higher female patient accompaniment were amongst elderly patients in a primary care setting, whereas two of the three studies finding no differences in sex were amongst cancer patients.

Five studies found that, compared to their unaccompanied counterparts, accompanied patients were less educated [1,15,23,25,27]; however three studies found no difference in education level [11,20,26]. All of the studies which indicated a difference were conducted in routine, primary care visits; whereas two of the three studies which found no difference in accompaniment status were oncology consultations. Six studies found that accompanied patients were more likely to be in worse physical health or have a poorer functional status [1,15,16,22,25,30], whilst one study found no difference in patient health status [11]. Five of the six studies which found a significant difference were conducted in a primary care setting; whilst the study which found no significant difference was conducted amongst lung cancer patients. Three studies found no difference between accompanied and unaccompanied patients in their psychological status [11,14,16]; however one study found that accompanied patients reported more symptoms of depression [26]. However, the three studies which found no difference utilized global measures of psychological functioning (SF-8, SF-12, Functional Status Questionnaire), whilst the study which found greater depressive symptoms in accompanied patients used the more specific Durham GRECC Scale to measure depression. More consistent measurement of psychological outcomes is needed before conclusions can be drawn.

Amongst the majority of demographic characteristics, it appears that most of the studies which found no significant difference were conducted in the oncology setting. Therefore companions of cancer patients may be more likely to attend the consultation irrespective of patient's demographic characteristics or functional status. Conversely, in more routine medical visits such as primary care or geriatric appointments, it appears that patients with reduced *competence* or greater *need* (e.g. older, less educated, poorer health) were more likely to be accompanied.

3.1.2. Communication patterns in dyadic versus triadic consultations

There were mostly no significant differences in the communication patterns of dyadic versus triadic consultations. Four studies found no difference in consultation length between unaccompanied and accompanied visits [11,15,16,18], and another found no differences in number of words spoken or speech turns taken [12]. However, one study of oncology outpatients found that the duration of accompanied visits was, on average, 3 min longer [22]. Whilst one study found that physicians engaged in less partnership building and positive talk when companions were present [14], other studies found no differences in physician communication, which included: physician control of conversation or use of facilitative communication [11]; number of physician raised topics [16]; and physician responsiveness (information giving and supportiveness) [16]. It is unclear why there are some discrepancies in communication, and it appears unrelated to consultation context or illness severity. The experience of the physician may influence communication patterns; however most studies failed to report on the experience levels and psychosocial orientation of participating physicians.

Findings related to patient involvement also varied. Patients in accompanied consultations were less involved than those in unaccompanied consultations in two studies conducted in geriatric and primary care settings [15,16] but not in another study conducted in an oncology setting [20]. Accompanied patients in the primary care setting raised fewer topics, engaged less in joint decision-making, and were rated as less expressive and assertive compared to unaccompanied patients [16]. Geriatric patient

contribution to the medical dialogue and number of words spoken by the patient was lower when a companion was present [15]. Conversely, a recent study amongst cancer patients and their companions found that presence of companions did not significantly decrease the total frequency of patient questions [20]. Compared to accompanied patients, unaccompanied patients were found to express more negative feelings [11]; and were more likely to understand their medical problems [27]. Most of the studies assessing communication patterns applied interaction analysis coding frames to consultation audio-tapes [11,14–16,20]. However, several different coding frames were used (e.g. RIAD, MDIA, K-ISAS) making comparisons between studies difficult.

It appears that the illness severity/consultation context may also influence patient involvement levels. Studies conducted within the geriatric and primary care settings indicate that some accompanied patients may be less actively involved in the consultation than their unaccompanied counterparts. This is unsurprising given that accompanied patients tend to be older, less educated, and in poorer health; and these factors may contribute to their overall low activity levels within the consultation. However, patients accompanied to cancer consultations appear to be actively engaged in the consultation; suggesting that companions may attend consultations for serious illnesses irrespective of the patient's ability to actively engage in the consultation.

3.1.3. Behaviour of companions in triadic consultations

The behaviour of companions and their influence on the communication in the consultation was less clear. One study showed that in 41% of consultations, companions were more verbally active than geriatric patients [13]. Similarly, in a study which examined 'bad news' oncology interactions, companions asked more questions than patients [17]. However, within some accompanied consultations, lung cancer patients were more active and assertive than their companions [11]; geriatric patients instigated laughter more than companions [19], and older primary care patients raised more issues than their companion [12]. Illness severity and patient functioning do not appear to be influencing the direction of results. The inconclusive findings regarding the behaviour of companions and their influence on consultation communication warrants further inquiry.

In ten studies within theme 1 the most common companion was the spouse [1,2,13,20,22,25–27,32,35], with six studies reporting that an adult child was the second most common companion [1,13,20,22,26,32].

3.2. Theme 2: Companion roles

Fifteen studies defined overall categories of companion roles or explored the main reasons for a companion's attendance at a consultation. Twelve of these studies were conducted in the USA (see Table 2). Nine studies were quantitative [1,11,13,14,24–27,30], four were qualitative [3,6,34,36], and two studies used mixed methods [18,35]. Within this theme, the quantitative results mainly provided frequencies of each companion role; whereas the qualitative studies gave greater depth and context to these results, explaining that roles may vary within the consultation and throughout the illness trajectory, and that companions may be unsure of which role to assume. The majority of studies were of good to strong quality (> 70% in quality ratings). Seven studies were conducted in the primary care and/or geriatric setting and included older adults only (>60 years old) [1,13,14,18,26,27,30]; whilst two additional studies were conducted in the primary care setting, but included adult participants of all ages [24,25]. Five studies involved oncology consultations [3,6,11,35,36], and one study examined the role of companions at *any* clinical visit [34]. Twelve studies assessed patient/companion/physician perspectives of companion roles which used questionnaires or interviews [1,3,6,13,14,24–27,30,34,35] and three used direct observation of consultations by researchers or analysis of consultation audio-recordings [11,18,36].

The most commonly reported roles of companions were to provide: *logistical assistance* (transportation and physical assistance) [1,25–27,35]; *informational support* (clarified patient history, remembered information, ensured patient understanding) [1,6,25–27,30,35]; *emotional support* (comforted patients, provided companionship, provided non-verbal support) [1,3,6,25–27,35]; and *some companions addressed their own needs* (e.g. expressed own concerns to physician) [25,30]. The primary role of companions of patients with chronic illnesses (e.g. diabetes, cancer) was emotional and informational support, whereas the companions of geriatric or older primary care patients often provided logistical assistance and informational support. Physicians identified the main role of the companion as emotional or informational support [3,24,25].

Ellingson [36] identified the following eight companion roles through direct observations of companions: memory aid; emotional support; transcriber; aid in decision-making; elaborator; advocate; interpreter and company provider. Street et al. [11] found that most companions adopted a passive observer role (49%), a minority were moderately involved partners (18%) and a third of companions were highly active advocates/surrogates (33%). Although companions primarily supported the patient, they also indirectly supported the physician by recalling essential information about the patient and re-explaining and recalling information for the patient after the consultation [11]. Companion roles appear to vary greatly, which may be partially explained by perceived patient *needs*; however other factors such as personality and patient–companion relationship dynamics may also influence involvement and roles.

3.3. Theme 3: Attitudes of patients, companions, and physicians towards companion involvement

Sixteen studies examined attitudes towards triadic communication by those participating in the consultations (see Table 3). There were six quantitative studies [13,23–26,37], nine qualitative studies [3,4,6,33,34,36,38–40], and one mixed-methods study [35]. Within this theme, the inclusion of nine qualitative studies provided insight into participants' emotions towards companion involvement and the reasons behind their involvement preferences and attitudes.

Studies were divided into attitudes of: (i) patients only, (ii) companions only, (iii) physicians only, and (iv) two or more members of the triad. Quality ratings of the studies varied widely from adequate to strong (64–100%). Most studies were from an oncology setting [3,4,6,35–40], four studies from primary care [23–26], two geriatric studies [13,33], and one study examined companions' attitudes and experiences in any type of consultation [34].

3.3.1. Patient attitudes

Studies that examined patients' preferences towards companion involvement highlighted that patients generally preferred companion involvement in the consultation [4,6,35,37,38], although they believed that they should be the one who decides whether their companion attends [35]. Cancer patients appreciated companion involvement as a source of support, assistance with decision-making and communication with the physician. They also appreciated the informational support provided by companions, including asking questions, gathering information, taking notes, and recalling details. Additionally, they appreciated

the efforts that their physicians made to involve companions; for example, by inviting companions into the consultation and getting to know them [6]. Cancer patients identified that companions were most involved in consultations at the beginning of treatment, when test results were discussed, and decisions had to be made [35]. Two studies revealed that between 16 and 30% of patients who attended a primary care consultation alone wished that they had a companion to accompany them [23,25].

3.3.2. Companion attitudes

Similarly, studies that examined companion attitudes were mostly from an oncology setting. Companions of oncology patients thought that it was important that they were involved in the consultation [4,39,40] and did not view attending medical visits with the patient as a burden [4,34]. However, companions felt that they needed to be invited into the consultation by the patient [39]. Companions perceived that they were helpful in the consultation and believed they helped both the patient and physician in the ensuring provision of the best possible medical care [34,35]. Some companions acknowledged that they also protected the patient by providing information and advice to the physician [38]. Despite their perceived helpfulness in the consultation, companions reported some negative experiences such as being actively excluded by healthcare professionals or feeling superfluous in the consultation [39].

3.3.3. Attitudes of patient–companion pairs

Three studies examined the preferences of matched patient–companion pairs [13,26,35]. A study among geriatric patients found that they expected companions to be more indirectly involved (supporting, remembering information, facilitating communication) rather than directly involved (asking questions, providing information); whereas companions expected to play a more active role [13]. A study of matched cancer patient–companion pairs revealed that while both patients and companions found companion involvement helpful, companions' perception of their helpfulness and involvement was greater than the views of patients [35]. Mirroring these findings, one study found that although 70% of patients and companions agreed that accompaniment was important, companions were more likely to rate the importance of accompaniment higher [26]. These findings suggest potential mismatch of expectations or confusion about what role to assume within the patient–companion relationship.

3.3.4. Physician attitudes

Overall, physicians appreciated the companion's input, and thought they were helpful in gathering and sharing information regarding medical history, medications used and symptoms experienced [3,33]. Some oncologists acknowledged that including a companion added increased complexity to the consultation [3]. To improve patient assessment some geriatricians preferred that patients answer the questions themselves [33]. Geriatricians stated that sometimes they viewed the companion's presence as an indication that the patient was incapable of answering questions [33].

3.4. Theme 4: Attitudes towards, and patterns of, triadic decision-making

Twenty studies examined the attitudes towards, and patterns of, triadic medical decision-making (see Table 4). The quality of studies varied considerably, five studies scored <65%. Most studies (14 out of 15 studies) that examined participant's attitudes employed quantitative methodology, whereas three out of five studies that examined decision-making patterns of triads employed qualitative methodology. Twelve studies were from an oncology setting [31,41–51], two studies from primary care and/or geriatrics [2,12], and six studies included patients of other disease types [34,52–56].

3.4.1. Patient attitudes

Most patients wanted their companion to be involved in the decision-making process; however, the extent of preferred companion involvement varied. In three studies of patients with various illness severities (primary care, diabetes, and acutely ill hospitalized patients), approximately one third of patients preferred that all parties in the consultation have equal say in the decision-making process (i.e. shared triadic decision-making) [53,55,56]; whereas approximately one third of patients expressed a desire to make the decision themselves after consulting with their physician and companions [55]. Another third of patients preferred that the physician be the main decision-maker [44,52]. Factors associated with wanting companion involvement in decision-making were having a partner and poorer physical functioning [47]. In a study of diabetes patients given one of three hypothetical decision-making vignettes (cancer, pneumonia, or gangrene diagnosis), substantially more 'cancer' patients wished for companion involvement in decision-making than 'gangrene' or 'pneumonia' patients. Therefore, illness severity may also play a part in patient preferences for decision-making [53]. Little else is known about factors influencing patient preferences for companion involvement in decision-making.

3.4.2. Companion attitudes

Between 55 and 60% of companions of cancer patients surveyed prior to decision-making stated a preference to be involved in the decision-making process [42,49]; whilst retrospective studies indicated that between 60 and 88% of companions of cancer patients indicated that they were actively involved in the decision-making process [31,49]. Therefore, the majority of cancer patient companions desire involvement, and are subsequently involved in the decision-making process. Despite their involvement, some companions (40%) reported that they deliberately avoided influencing the patient's final decision [31]; whilst some companions felt uncomfortable participating in decision-making as they had not anticipated this as a role [34]. Therefore, an important minority of companions may be reluctantly involved in the decision-making process.

3.4.3. Physician attitudes

In two studies conducted in the oncology setting, physicians believed that companion involvement in decision-making is important and were generally supportive of their involvement [50,54]. One study found that 69% of oncology physicians agreed that companions encouraged patient involvement and reflection on treatment decisions [50]. In another study, Japanese- and US-based medical residents perceived the involvement of companions in medical encounters to be very important [54]. However, physicians also identified the challenges of companion involvement, such as companion domination as a barrier in the decision-making process [50].

3.4.4. Patterns of decision-making

Only five studies to date have assessed the patterns of triadic decision-making within medical encounters, each with a different approach [2,12,41,45,46]. A study which analysed audio-taped geriatric consultations found that half of all patients were active decision-makers, compared to a quarter of companions [2]. Spouses and adult children of patients were more likely to be active in decision-making than other relatives or friends. Three qualitative studies have identified a spectrum of the

decision-making roles and patterns that companions assumed within cancer consultations [41,45,46]. In a study of cancer patient companions, roles ranged from more passive facilitators of discussions and stimulating thinking, to active roles such as directing the flow of information and discussion about decisions. The influence of the companion was dependent on the patient's information processing ability, the companions skill in anticipating the needs of the patient, and the perception of what treatment choices were available [46]. Further, companion and patient activity ranged from minimal participation through to extensive active participation in decision-making. Involvement patterns appeared to be influenced by pre-diagnosis communication of the patient and companion, patient/companion age and education, and complexity of the decision [45]. Companions were also found to influence the decision-making process outside of the consultation, acting as sound-boards for the patient and stimulating thinking about the decision 'behind the scenes' at home [46]. Measurement of decision-making patterns was diverse, with two studies using observational coding frames (RIAS, MPCC, RPAD) [2,12], whilst three studies included patients' qualitative accounts of decision-making patterns. Standardized assessment of triadic decision-making patterns is needed before comparisons between studies or populations can be made.

3.5. Theme 5: Impact of companion involvement on patient and physician ratings

Seventeen studies examined the impact of companion involvement in consultations (see Table 5). This theme explored both the positive and negative consequences resulting from companion participation. There were ten quantitative studies [1,11,12,15,16,22,26,27,29,37], six qualitative studies [3,4,6,33,46,57], and one mixed methods study [35]. The majority of studies were of good to strong quality, scoring >70%. Most studies were conducted in the USA. Eight studies were from an oncology setting [3,4,6,11,22,35,37,46], eight from primary care and/or geriatrics [12,15,16,26,27,29,33,57], and one study of older people in the community [1].

Patient's satisfaction with the medical visit and with the care provided by physicians was one of the most commonly measured outcomes of companion involvement, via the use of items adapted from various questionnaires. Six studies that measured satisfaction yielded inconsistent results. Three studies from various medical settings (geriatrics, primary care, oncology) found no differences between accompanied and unaccompanied patients [12,16,22], whereas three studies reported significant effects [1,11,29]. In a study involving a large community sample of older individuals, those accompanied to medical visits were more satisfied with their physician's technical skills, information provision, and interpersonal skills than unaccompanied patients, after controlling for socio-demographic and health differences [1]. Another study showed that cardiovascular/diabetes patients were more satisfied with their physician's care when their companions were actively involved [29]. It is unclear why these satisfaction results are discrepant; however each study used a different measure of satisfaction which may have influenced the results. Additionally, few studies have examined satisfaction in sufficient depth to uncover whether patient satisfaction may vary depending on particular types or levels of companion involvement. One study of cancer patients which did explore this concept found that when patients and companions had similar levels of participation in the consultation, patients were less satisfied with the encounter than patients with either more passive or more active companions [11]. One suggestion is that companions who are in some way *complementary* to the patient may increase patient satisfaction, rather than *all* companions leading to increased satisfaction.

The majority of patients reported positive consequences of companion involvement in consultations. Patients reported that companions helped increase their understanding [29] and helped improve the quantity and quality of information exchanged in consultations [4,46]. Changes reported by patients when a companion was present were an increase in the total number of questions asked, and feeling more comfortable during consultations [35]. Some patients found it easier to discuss difficult topics at the consultation when accompanied [29]; and most physicians in one study thought companions positively influenced the information exchanged in consultations (e.g. companions assisted patients by encouraging or prompting them to ask more questions). They reported that the companion's presence allowed physicians to obtain more information [3], and to improve their understanding of the patient's concerns [29].

However, some unfavorable consequences were also reported. Patients stated that involvement of companions could create disagreements between the patient and the family; and that both physicians and companions sometimes shared too much information in the consultation [29]. Physicians also raised concerns such as companion involvement taking time away from discussing important issues with patients; and some physicians reported feeling overburdened when companions participated [29]. Some physicians found it difficult when patients and companions purposely concealed information from one another [6]. They also believed that the presence of a companion might prevent patients from discussing sensitive issues [33].

4. Discussion and conclusion

4.1. Discussion

The current review has demonstrated that a diverse literature base exists within the field of triadic consultations. The majority of reviewed studies provided *descriptive* evidence about the characteristics of triadic consultations and accompanied patients/companions, or focused on participant preferences for companion involvement. However, studies were restricted by the lack of relevant theory describing triadic consultations. Currently, there are few applicable theories to assist in depicting triadic interactions; however some recent studies have proposed preliminary theoretical models which may be useful for future research [7,58]. One such theoretical model is the *Family Involvement in Interpersonal Health Care Processes* framework proposed by Wolff and Roter [58]; whereby the interaction pathways between patients, families, and health professionals are depicted, and the influence of family on interpersonal processes and outcomes of medical consultations are discussed. Continued development and utilization of comprehensive triadic theoretical frameworks may provide guidance and direction for future research, allowing for greater integration and progress within this diverse research area. Many of the studies included in the review have neglected *deeper* concepts such as factors influencing the level of companion involvement and the impact of companions on treatment decision-making. To date, very few studies have examined the impact of patient–companion relationship quality and dynamics on consultation interactions or the characteristics of patients who do not desire accompaniment. Aside from satisfaction, few studies have examined other potential effects of companion involvement within consultations (e.g. quality of decision-making, family wellbeing). A particular challenge of this literature base was the variability in the terms used to describe a 'third person'; for example, 'carers' may behave in a different way to 'loved ones'. To date, no studies have identified the characteristics and behaviours of different types of third parties (e.g. spouse versus adult child).

Overall, existing studies indicated that companions regularly attend consultations and assume a variety of roles within the consultation. Upon further examination, it appears that increased patient *need* may mediate accompaniment rates, involvement levels, and companion roles. Patients attending geriatric or primary care consultations were more likely to be accompanied and less likely to be actively involved in the consultation if they were older, less educated, or more unwell, therefore potentially possessing lower *competence* and increased *need*. Studies indicated that for patients attending specialist consultations for a life threatening illness (e.g. cancer), demographic characteristics did not appear to influence accompaniment or involvement levels; however the overall companion attendance rate was high (64–86%); indicating that for serious illness, patients may be in *need* of companion support for different reasons. Companion roles appear to shed light on this pattern, with companions engaging in more logistical support for geriatric/primary care patients, whilst providing greater emotional support for cancer patients. Informational support appeared to be provided irrespective of illness severity/type, however further research to tease apart the different types of informational support (e.g. asking questions, recalling information, ensuring patient understanding) a companion provides is warranted.

Within the consultation, both patients and physicians generally preferred companion involvement and appreciated the support companions provide. Patients particularly found the informational support companions provided to be useful, such as asking questions, taking notes, and recalling information; especially during important discussions and treatment decision-making. Hubbard, et al. [46] suggested that the informational support provided by companions can be particularly useful for patients who are passive within consultations, but who might discuss information about treatment with their companion outside of consultations. Physicians also appreciated the informational assistance provided by companions, but some physicians preferred giving the patient the opportunity to answer for themselves to assist patient assessment. Companions should potentially be made aware of what behaviours patients and physicians find most helpful.

Studies also revealed that companion involvement can lead to positive consequences. Patient visit satisfaction within triadic consultations was equal to or higher than dyadic consultation satisfaction, despite the results indicating that accompanied patients were often older, in poorer physical health, and less educated. Additionally, companion involvement was associated with improved patient understanding, improved quality and quantity of information exchanged, and an increased patient perception of comfort and freedom of expression inside the consultation. Future research should aim to develop strategies which increase these beneficial behaviours and outcomes.

However, various challenges were also evident in triadic consultations, including confusion about what role the companion should assume, family conflict, physicians or companions oversharing information and difficulty in discussing sensitive issues. Explicit clarification and agreement of preferred companion involvement levels and roles by the physician upon commencement of the consultation may overcome some of these challenges. Additionally, physicians perceived dominating or demanding companions to be particularly challenging. Future research needs to explore strategies to best manage difficult companions whilst ensuring consultation objectives are still achieved. Within the communication and decision-making literature, it appears that most patients have the desire to retain control of who attends the consultation, what information is conveyed, and how decisions are made. Companions and physicians should be made aware of, and respect, the patient's wishes regarding the extent to which companions influence the consultation.

Patients and physicians generally supported companion involvement in decision-making; however mediating factors such as pre-existing patient–companion relationship dynamics, physical functioning, and illness severity may affect involvement levels. Patients' preferences for the level of companion involvement in decision-making varied from passive to active. However, some companions did not anticipate active involvement in decision-making, and were uneasy about influencing the final decision. There is a need for further research and theory to clarify how companions are specifically involved in the decision-making process, what influence they have on the final decision, and what physicians' preferences/perspectives are on companion involvement in decisions.

Overall, it appears that a companion's position within the consultation is variable, and can range from "active partner" or "welcome guest" to "intruder"; and this involvement may be perceived differently by the patient, companion, and physician. Therefore, it may be helpful for physicians to ascertain from the patient and/or companion why the companion has accompanied the patient to the consultation.

Although quality of the reviewed studies was variable (50–100% on the Qualsyst quality assessment tool), the majority (36 studies) were rated as strong (i.e. $>80\%$). Common limitations identified in the quantitative studies were inappropriate sampling strategies, inadequate description of participant characteristics, and inadequate control of confounding variables (e.g. health status, age). Many of the quantitative studies were restricted by the lack of validated triadic measures and coding frames and many questionnaire items lacked specificity (e.g. asking patients to rate companion 'helpfulness'). Future measures should be validated and include items which clarify the specific behaviours of companions in consultations and which of these behaviours are most helpful to the patient. Additionally, not all studies used the same measures, nor did they measure the same outcomes, therefore comparison between studies was made difficult. Consistent usage of validated measures specifically designed for triadic consultations would enable greater comparison of findings across studies and populations. Furthermore, six quantitative studies were secondary analyses of previous data sets [2,16–20]; therefore the methods used to collect initial data may not be ideal for the current (triadic) research question. Among the 14 included qualitative studies, some of the common limitations identified in the quality ratings included inappropriate sampling strategies, unclear description of data collection methods, and limited use of verification procedures (e.g. inter-rater reliability or external audits).

The included literature was biased towards western cultures (44/52 studies), with over half of the studies conducted in the US. However, studies examining triadic decision-making were more culturally diverse (including Portugal, Germany, Israel, Japan). To date, only one study has explored cross cultural differences regarding companion involvement in consultations [54]. Literature was also skewed towards the disciplines of primary care, geriatrics, and oncology, with only five studies examining other illnesses (e.g. diabetes, heart failure). Since attitudes towards companion involvement and behaviours of participants in triadic consultations are likely to vary depending on illness type and severity,[53] further research into this area is warranted.

Some of the trends we observed in the literature can be compared to the findings of the Wolff and Roter (2011) [7] meta-analysis. Our review indicated that patients may be more likely to be accompanied if they were older, sicker, less educated, and female, and this was mirrored in the meta-analysis. Surprisingly, four out of five studies in our review found no difference in

consultation length between dyadic and triadic consultations, however when the data was pooled in the meta-analysis, Wolff and Roter [7] found that accompanied visits were approximately 20% longer. Both reviews found that although overall physician behaviour did not vary considerably across dyadic and triadic consultations, a few studies indicated that some physicians became less patient-centred when a companion was present. While Wolff and Roter's [7] meta-analysis allowed greater synthesis of quantitative results within the setting of routine medical visits, our wider eligibility criteria, including qualitative studies, enabled a deeper exploration of the variation in roles, attitudes, and behaviours within triads, as well as a deeper understanding of the experiences and preferences of each party in a variety of medical settings.

However, some limitations of the current review need to be addressed. We searched systematically and thoroughly for eligible studies, but this is not a well-indexed field of research, therefore it is possible that some relevant studies were not included in this review. Additionally, database searches were limited to studies written in English, therefore some studies from non-English speaking cultures may not have been included. Finally, we are unable to comment on triadic communication in consultations which involved other health professionals (e.g. nurses, psychologists), as this was beyond the scope of our review.

4.2. Conclusion

Despite the diverse literature base identified in this review, there are numerous gaps in our understanding of triadic consultations. Research is particularly needed in settings other than primary care, geriatrics, and oncology; and across a range of cultures. A greater insight into the facilitators, barriers, and nature of triadic medical decision-making is also warranted. In addition, a clearer understanding of how the specific needs and characteristics of patients influence companion involvement levels is needed. The development of triadic theoretical frameworks, validated measures, and validated coding frames may also improve the overall quality of the research area. Finally, based on the limited translation of findings to clinical practice, future studies should identify and evaluate strategies to enhance triadic interactions such as patient preference assessment tools or communication skills training packages.

4.3. Practice Implications

Companions are often perceived as helpful within consultations and their presence can result in perceived benefits such as increased patient comfort and understanding, and improved quality and quantity of information discussed. The role a companion assumes appears to be based on patient *needs*, and includes logistical, informational and emotional support. Informational support is valued by the majority of patients and physicians, with behaviours such as note taking, question asking, and recalling of information often deemed very helpful. However, there are also challenges of companion involvement such as family conflict or confusion about the companion's role. Clarification and agreement of preferences and roles by the physician upon commencement of the consultation is one suggested strategy to ensure companions understand patient needs and preferences, whilst also minimizing some of these challenges [6]. Additionally, studies indicate that the majority of patients desire to retain control over which companions attend, what information is conveyed, and how decisions are made within the consultation. Physicians should be aware of, and respect, patient preferences regarding companion involvement.

Box 5. Preliminary strategies for health professionals

- **Encourage, welcome, and involve companions in consultations.** Most patients who are accompanied desire companion involvement, and companions are often perceived by the patient to have a positive influence on the consultation.
- **Ascertain from the patient and/or the companion why the companion has accompanied the patient to the consultation.** Companions may attend for a range of reasons, which may differ from the patient's wants and needs.
- **Highlight helpful companion behaviours.** Companions may be unaware of, or confused about, what role they should assume. Health professionals could explain the different types of appropriate support they could offer (e.g. emotional, informational, logistical).
- **Clarify and agree upon the role preferences of patients and companions at commencement of the consultation.** There appears to be role confusion and mismatch in role expectations between some patients and companions.
- **Be aware of, and respect, the patient's preferences for companion involvement.** It appears that many patients desire to maintain control over who attends the consultation, what information is conveyed, and how decisions are made.
- **Take opportunities to privately discuss sensitive information with patients alone.** Some patients expressed discomfort sharing sensitive information (e.g. sexuality, fertility, psychological health) in the presence of companions. One example of an opportunity is to allow time before the patient undresses for a physical examination, after the companion has left the room, to discuss sensitive issues with the patient alone.
- **Be aware that companions are involved in decision-making discussions outside of the consultation.** Companions are often actively involved in decision-making discussions both inside and outside of consultations; therefore actively engaging with companions in the consultation may prove beneficial.
- **Reflect upon your own behaviours towards companions.** Some patients and companions reported that their physician engaged in blocking behaviours or made companions feel unwelcome or superfluous within the consultation.

Some patients also expressed discomfort sharing sensitive information (e.g. sexuality, depression) in front of companions; therefore physicians could ask companions to leave during physical examinations, providing patients with a private opportunity to discuss any sensitive information [36]. Health professionals should also be aware that companions are often involved in the decision-making conversations, inside and outside the consultation; therefore actively engaging with companions inside the consultation during decision-making discussions may provide physicians with a greater awareness of the extent and type of influence companions may have on the treatment decision.

Literature highlights that physician practices may remain unchanged, or become less patient centred, when companions are present; and in some studies, companions reported unfavorable physician practices (e.g. blocking behaviours). Some preliminary suggestions from the literature to overcome unfavorable practices include: (i) physicians completing a self assessment, providing opportunities to reflect upon their practices and attitudes towards companions in consultations; (ii) physicians welcoming companions and learning their name [6]; and (iii) acknowledging and involving companions throughout the consultation [39]. Some of the above preliminary strategies are summarized in Box 5, and many of the proposed strategies are mirrored by Mitnick et al. [5] who proposed ethical guidance for consultations involving family members. Based on the preliminary nature of many included studies, the array of factors influencing companion involvement

(e.g. patient demographics, illness severity, patient–companion relationship), and paucity of published practical implications, further research is needed to empirically develop and evaluate specific strategies optimizing triadic consultations.

Ethical approval

Not required.

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Appendix A. Supplementary data

Summary tables 1–5 can be found, in the online version, at http://dx.doi.org/10.1016/j.pec.2012.11.007.

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