

Arts-based digital storytelling within neonatal care to enhance empathy in children's nursing students

Abstract

Background; Patient stories can be used to teach difficult topics about emotionally challenging times. Digital storytelling using an arts-based approach can improve nurses' understanding of emotional experiences relating to experiences of parents following the birth of their sick, premature baby.

Aim; To explore the contribution of art-based digital storytelling based on parent's experiences of neonatal care, to the enhancement of empathy in children's nurses.

Methods; Digital stories based on parent narratives were constructed following the ASPIRE stepwise framework. A mixed-methods approach was then used with 67 children's nursing students who evaluated three digital stories for emotional impact and potential for enhancing empathy.

Results; The range of arts-based, multi-media aspects of the digital stories was well-received and had an emotional impact in relation to the ability to evoke an affective response or communicate important messages relevant to caring for parents' emotional needs. Factors within the digital stories both enhanced and hindered learning about the parent experience.

Conclusion; In neonatal care, digital stories using an arts-based approach serve as an impactful way for student nurses to learn about the emotional experiences of parents, so that they can come to understand and empathise with them.

Background

This article reports on a study that explored the experiences of parents in neonatal care and, from their narratives, developed digital stories with the aim of teaching and enhancing empathy in nursing students. The findings of the first phase which focused on parents' experiences of their trajectory on the neonatal unit and the impact of their stories have been reported previously (Petty et al, 2019; 2020). This article centres on the potential impact of digital storytelling (DST) specifically within an art-based context, on empathy and learning about the emotional experiences of parents.

Parents in the neonatal unit are faced with emotional turmoil and uncertainty when their baby admitted to the neonatal unit, often for a lengthy period. The emotional challenges associated with this are widely documented (Spinelli et al., 2016; Flacking et al, 2016; Banerjee et al, 2018) and understanding these experiences is fundamental to deliver sensitive, empathic nursing care with a focus on emotional as well as physical needs.

Stories based on the narratives of patients, carers or parents can be an effective way for nurses to learn about their care experience and to be able to empathise with them (Hardy and Sumner, 2018). Telling stories can open up many emotions and are a powerful means of relaying experience (Fairbairn, 2005) moving the listener and eliciting an emotional response that connects them with the storyteller.

Stories are an art-form that can be used to educate others in line with an arts-based knowledge translation (ABKT) approach, defined by Archibald et al (2018) as 'the use of any art form to communicate knowledge (e.g., research from various sources), re-present and re-construct data, and promote empathetic understanding' (pg. 2). This in turn, influences

knowledge and/or behaviour changes. Stories enable a human connection to be gained using a chronological plot, characters, and events to evoke emotion and connections in others.

ABKT strategies have a powerful and unique emotional component and disseminate knowledge by engaging the learner with the context (Rieger and Schultz, 2014), in this case with parents in neonatal care.

Studies in the child field have demonstrated positive results in this area. Hartling et al (2010) report on a storytelling-based intervention for parents of children with croup created from their narratives with the assistance of an illustrator and graphic designer. Story booklets were evaluated and feedback which was positive relating to the graphics and layout. Similarly, Reid et al (2017) developed an e-book for parents based on their narratives about living with a child with chronic pain. Parents evaluating it highly, stating it was easy to understand, in part due to the visual and aesthetic appeal inherent in its development. Ollivier et al (2018) also described an innovative, arts-based approach involving families of children with intellectual disabilities in the recording of videos to disseminate their experience. Participants found this to be rewarding, reporting that they were able to contribute to enhancing the care experience for others. In addition, Archibald et al (2018) reports on the development of “My Asthma Diary”, a knowledge translation tool that used examples from the lives of the parent participants, using their own words to convey these experiences.

Digital storytelling (DST) specifically, using a range of multi-media, has also been shown to have significant benefits for learning about the patient experience (Christiansen, 2011; Fenton, 2014; Wilson et al, 2015). This is vital in neonatal education where nurses and health professionals must ‘connect’ the knowledge gained through these stories with understanding the patient / parent experience resulting in a behaviour change; i.e. more sensitive, empathic

care. However, there is sparsity of research in the *neonatal* field specifically compared to other fields, about using either narratives or an arts-based approach for education purposes. Existing gaps are identified here, that are addressed by the current study.

Aim

The aim of this study was to explore the contribution of art-based DST based on parent's experiences of neonatal care, to the enhancement of empathy in children's nurses.

Methods

Digital story development

The ASPIRE approach was used (FutureLearn, 2016). These stages involved the following:

Aim: To develop a DST resource using the stories of parents, created from their narratives gained through interviewing 23 parent participants.

Storyboard: These are plans divided into the different parts of the plot with corresponding pictures and parts of a script, a condensed version of the full narrative.

Population: The digital stories were created in collaboration with a range of people (illustrators, animators and voice actors) so that the final product was co-constructed.

Implementation: This involved producing the videos using Adobe Premier Pro, a timeline-based video editing application incorporating audio, images and text. These were added to the timeline in a 'storied' manner and edited to produce a brief video in MP4 format.

Release: The videos were released on YouTube, and a website developed by the author to host them collectively.

Evaluation: Evaluation was essential to ascertain the effectiveness of the digital stories.

Without feedback from the participants it would be impossible to gauge whether the process of making the stories was in itself useful or even transformative for learning.

Exploring the impact of digital stories

67 children's nursing students from all years (1st, 2nd and 3rd) were selected by convenience sampling, an appropriate method due to them being present in the University for timetabled sessions. Ethical approval was granted by the author's higher education institution (HEI) including assurances that informed consent to use and report on participant data had been obtained which would be fully anonymised to maintain confidentiality. It was also necessary to ensure participants were fully aware they could opt out at any point avoiding any element of coercion to take part, particularly important due to the first author being known to them as their lecturer. This was made clear in a detailed participant information sheet given to them in advance of any data collection.

A mixed-methods approach was used as this can generate different insights into a research question resulting in more enriched data and a more robust understanding of results by triangulation, a strategy used to enhance rigour (Guetterman et al, 2015).

Student participants were shown three digital stories (*'Another World'*, *'On the Edge'* and *'Fighter'* accessed via <https://neonatalstories.com/>) and asked to write down single adjectives to describe the parents' feelings; word frequencies were obtained. Secondly, they were asked what both enhanced and hindered their learning about the parent experience in relation to the format and presentation of the stories. Thirdly, they were asked to complete a questionnaire (Table 1a) analysed descriptively. In addition, seven students were interviewed on a one-to-one basis about their views of the three stories (Table 1b) to gather further information.

The open responses for interview and questionnaire data for all questions were collated and analysed as a collective dataset. Thematic analysis was undertaken which involved

familiarising oneself with the open response data by transcribing, reading, rereading narrative and noting down initial ideas. Common features were coded, and data organised according to these codes. These in turn were sorted into themes and organising data relevant to each code (Braun and Clarke, 2014)

Table 1: Selected questionnaire and interviews questions

1a: Questionnaire											
<p>On a scale of 1 to 5, please rate the following statements which ask you about your thoughts on the stories you have seen:</p> <p>(1=completely disagree; 2=disagree; 3=neutral/unsure; 4=agree; 5=completely agree)</p> <ul style="list-style-type: none"> • The information in the digital stories is clearly presented. • The digital stories have visual appeal. • The digital stories have an engaging presentation. <p style="text-align: center;">Give your reasons(s)</p> <ul style="list-style-type: none"> • Out of the digital or the written format, which is the most effective way of learning about the emotions of parents and their experience? (choose) <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">Digital</td> <td style="text-align: center;">Written</td> <td style="text-align: center;">Combination</td> <td style="text-align: center;">No difference</td> <td style="text-align: center;">Other</td> </tr> </table> <p style="text-align: center;">Give your reason(s)</p> <ul style="list-style-type: none"> • Out of the digital or the written format, which is the most effective way of evoking empathy? <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">Digital</td> <td style="text-align: center;">Written</td> <td style="text-align: center;">Combination</td> <td style="text-align: center;">No difference</td> <td style="text-align: center;">Other</td> </tr> </table> <p style="text-align: center;">Give your reason(s)</p>		Digital	Written	Combination	No difference	Other	Digital	Written	Combination	No difference	Other
Digital	Written	Combination	No difference	Other							
Digital	Written	Combination	No difference	Other							
1b: Interview questions											
<ul style="list-style-type: none"> • Did you prefer story 1, 2 or 3 in relation to learning, or was there no difference? <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">No difference</td> </tr> </table> <p style="text-align: center;">Give your reason(s)</p> <ul style="list-style-type: none"> • What did you learn from the digital stories you watched / listened to above ('Another World', 'On the Edge' and / or 'Fighter').... 		1	2	3	No difference						
1	2	3	No difference								

effect of the narrator’s voice in conjunction with the visual aspects. Varying views were evident in relation to the different illustrations from each story. Most preferred the colour drawings with added animation in ‘Another World’ while some stated the pictures were more realistic in ‘On the Edge’; a few also stated they liked the simplicity of the black and white line drawing in ‘Fighter’. Such differences of opinion probably reflected individual learning preferences.

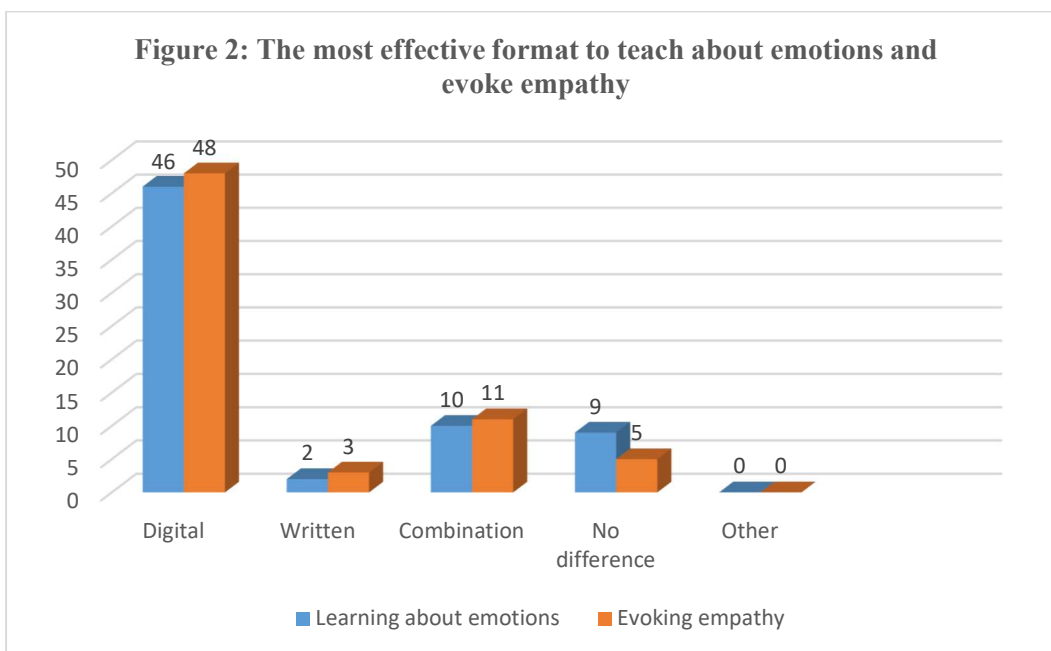
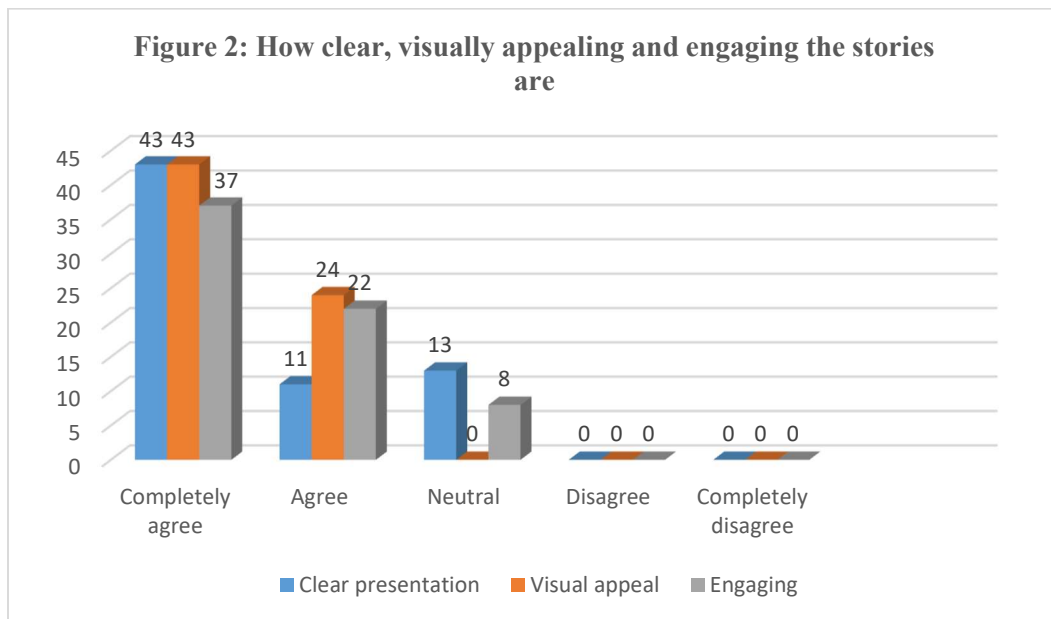
Table 2: What aspects of the art-based approach enhanced or hindered learning about the parent experience?

<ul style="list-style-type: none"> • What enhanced learning? 	<ul style="list-style-type: none"> • What hindered learning?
<ul style="list-style-type: none"> • The images to explain the story show realism • The colours, quotes, pictures • Animation and subtitles of keywords, using different voices • The writing emphasised some parts • The titles of the episodes really stuck in my mind as they were powerful messages • The visuals • The animation but also with some of the words/ phrases coming out was intriguing • Pictures showing the emotions and how overwhelming it all is • Parents words on pictures helps you to empathise 	<ul style="list-style-type: none"> • Animations that don’t move • I found ‘The Other World’ illustrations distracting • The second video clip had fewer visuals • Third video – images merged together, making it harder to identify what’s happening • I liked the use of key phrases of text on the screen as quotations. However, the words did not always fit with what was being spoken on the audio and for someone with dyslexia (me), this made it hard to follow in places. • Didn’t really like the third pictures as it was like a child drawing

Questionnaires and interviews

Figures 2 and 3 represent the responses relating to presentation aspects of the digital stories and the different formats for evoking emotion and empathy. For the questions on clarity, visual appeal and how engaging the stories were, the majority of responses were ‘Completely agree’ or ‘Agree’, with > 75% obtained for these responses combined, for these questions.

Some answered ‘neutral/ unsure’, due again, to different preferences for some stories over others.



Regarding the questions relating to learning about emotions and evoking empathy, it was clear that the digital format was more effective than written stories. However, a combination of formats also received some positive responses suggesting that blended learning may be a preferred option with 2-3 participants preferring reading stories in text form.

Reasons behind the selection of responses was ascertained from both the open responses to both the questionnaire and from the interviews. The thematic analysis revealed four main themes, as outlined in Table 3 along with some selected participant quotes; namely, the themes are engagement, authenticity, learning with the senses and making connections. Overall, the use of multi-media was found to be engaging, held interest, captured the senses and participants often commented on how this helped them connect with the emotional side of the story and presentation. Voice in particular, was found to be a strongly emotive feature in conjunction with pictures.

Some critique was raised by some participants; Table 2 highlights what hindered learning in relation to the different stories and selected quotes from the open response data are outlined in Table 3 to give further examples. A few participants did not favour a digital format and some who responded 'unsure' thought that the digital stories were not as powerful as learning directly from parents in the practice area or indeed the classroom, or that the multimedia aspects (e.g., sound, pictures) overshadowed the parents' key messages. three participants referred to the limited authenticity of the stories, due to the voices not being the real parents. It is important to acknowledge the limitations of this study. However, the majority of comments were constructive in relation to suggestions for future development and improvement of the stories; for example, increasing animation, adding music plus altering the length.

Table 3
Learning about emotion and evoking empathy

Engagement

“Hearing and watching what the parents and babies go through keeps people engaged”

“Having the visuals engaged me more”

Authenticity

“The cartoons gave the speech and writing context. The actor reading the script gave the pictures a voice and someone to focus on. This makes it feel more real”

“ I felt the videos were a really clear representation of what it is like in the unit”.

Learning via the senses

“Very informative by using a mix of words, pictures and illustrations”

“You can understand better how they are feeling when you hear parent’s voice”

Making connections

“Being able to see the parents’ emotions as well as hearing it does help to create a bond of how they feel”

“Emotion expressed with someone’s voice as well as a visual illustration touches the heart”

“Digital format allows more of an opportunity to connect with the story of each parent and hear the emotions of the voice”

Critique

“The voice did make me feel the experience but not so much with the video”

“It would have been even more effective if real parents talking”

“No difference between digital and written – the same messages are conveyed”

“I prefer reading a story rather than watching abstract pictures”

DISCUSSION

The findings from the current study have implications in relation to the role and value of both DST and the arts within neonatal education. Being able to depict the parent experience using this approach can help those who care for them to make sense of this experience, enabling a poignant and evocative way to communicate and teach. This is vital given the evidence on the

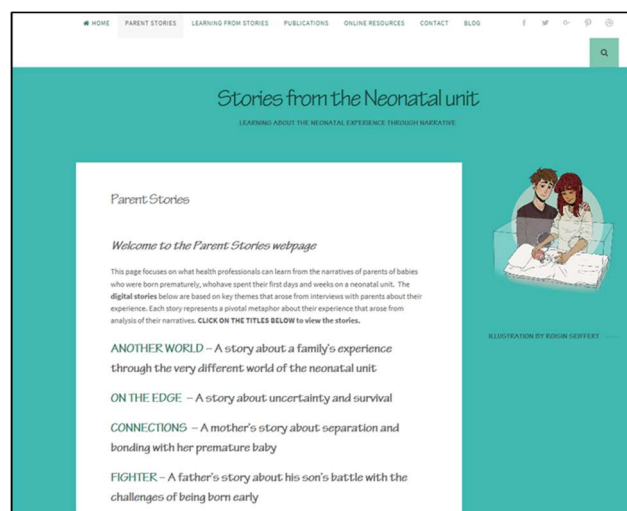
emotional turmoil experienced by parents and the challenges in relation coping with the stress and certainly of having a sick, premature baby that is well recognised in the research (Spinelli et al., 2016; Petty et al, 2019).

The approach used in this paper is congruent with research that has found a benefit for learning from the creation of patient stories by a third party (for example, an educator) (Moreau et al, 2018). Arts-based DST shows how to communicate compelling narratives in creative ways, and this has great potential for learning. Research cited earlier pointed to how stories are an effective way to communicate and engage the reader / listener (Hartling et al, 2010) which can be extended to learner and to the creation of e-resources; this study adds further support to the effectiveness of this work.

The findings also highlight that the arts are powerful, accessible forms of communication that have the potential to impart knowledge by attracting interest. developing meaningful connections (Scott et al., 2013) and promoting behaviour change. In relation to evoking or enhancing empathy, arts-based DST therefore offers a creative opportunity to generate new knowledge about others' emotions, in this case parents. This can be used to engage children's nurses, health professionals and students in higher order thinking and deeper learning (Robin, 2016). Given the importance placed on emotional care of parents, the connection between story and empathy needs emphasising. If we can better understand parent's experience, we can then act to improve this if necessary. For example, by identifying the negative experiences, we can better understand such difficult moments and hopefully act to reduce these and make parents experience better.

This study has led to further work in the development of parent-focused web-based resources to teach others within neonatal education and beyond as open access. Disseminating the parent voice on an online platform will contribute to sharing what is important to care for parents emotionally (Figure 4). This will in turn, enable knowledge translation that can be applied to clinical neonatal practice by enhancing insight into the parent's emotional experience.

Figure 4: Stories from the Neonatal Unit website



<https://neonatalstories.com/>

CONCLUSION

This paper makes a case for the value of using arts-based DST for relaying and teaching nurses about the emotional experience of parents in neonatal care, in line with an empathic, person-centred approach. In this study, DST provided a unique opportunity to learn about the parent experience, allowing children's nurses to view others' experiences with different viewpoints, by seeing what they experienced and felt. This approach to DST can enhance one's knowledge in line with the principles of arts-based knowledge translation, opening opportunities for creative and new possibilities in the neonatal care context, for learning and teaching. Arts-based DST can capture and teach the complexities of the parent's emotional experience so that children's nurses can be taught to understand and empathise with them.

IMPLICATIONS FOR PRACTICE

- Understanding the emotional experience of parents of sick, premature babies is essential in order to give sensitive, empathic nursing care, during difficult and challenging times such as the trajectory of neonatal care.
- The ASPIRE framework is a stepwise approach used in this study for the development of digital stories, that integrates storyboarding to relay key parts of personal narratives, then transferred to a digital platform.
- Arts-based digital storytelling offers a way to educate children's nurses about the emotional experiences of parents in neonatal care, based on narratives pedagogy.

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References

- Archibald MM, Hartling L, Ali S, Caine V, Scott SD (2018) Developing “My Asthma Diary”: a process exemplar of a patient-driven arts-based knowledge translation tool. *BMC Pediatrics*, 18, 1, 186.
- Banerjee J, Aloysius A, Platonos K, Deierl A (2018) Innovations: Supporting family integrated care. *Journal of Neonatal Nursing*, 24, 1, 48–54.
- Braun, V, and Clarke, V. (2014). What can thematic analysis offer health and wellbeing researchers? *International Journal of Qualitative Studies on Health and Well-Being*, 9, 1–2.
- Christiansen, A. (2011). Storytelling and professional learning: A phenomenographic study of students’ experience of patient digital stories in nurse education. *Nurse Education Today*, 31(3), 289–293.
- Fairbairn, G. (2005). Storytelling, ethics and empathy. *The International Journal of Communication Studies*. 2(3), 48-55.
- Fenton, G. (2014). Involving a young person in the development of a digital resource in nurse education. *Nurse Education in Practice*, 14(1), 49–54.
- Flacking R, Thomson G, Axelin A (2016) Pathways to emotional closeness in neonatal units - a cross-national qualitative study. *BMC Pregnancy and Childbirth*, 16, 1, 1–8.
- FutureLearn (2016). The ASPIRE Framework. The University of Nottingham. Retrieved July 6th, 2020 from, <https://www.futurelearn.com/courses/e-learning-health/0/steps/17130>.
- Hardy P, Sumner T (2018) *Cultivating Compassion How Digital Storytelling is Transforming Healthcare* (2nd Edition). London: Palgrave MacMillan.
- Hartling L, Scott S, Pandya R, Johnson D, Bishop T, Klassen TP (2010) Storytelling as a communication tool for health consumers: development of an intervention for parents of children with croup. *Stories to communicate health information*. *BMC Pediatrics*, 10, 1, 64.
- Moreau, K.A., Eady, K., Sikora, L. et al (2018) Digital storytelling in health professions education: a systematic review. *BMC Med Educ* 18, 208. <https://doi.org/10.1186/s12909-018-1320-1>
- Ollivier R, Aston M, Price S (2018) From research participants to video stars: Engaging families in end-of-grant knowledge translation. *Journal of Family Nursing*, 24, 4, 612-620. doi:10.1177/1074840718809414.
- Petty J, Jarvis J, Thomas R (2019) Understanding parents’ emotional experiences for neonatal education: A narrative, interpretive approach. *Journal of Clinical Nursing*. 28, 9-10, 1911-1924.
- Petty J, Jarvis J, Thomas R (2020) Exploring the impact of digital stories on empathic learning in neonatal nurse education. *Nurse Education in Practice* (submitted / under peer review).

Reid K, Hartling L, Ali S, Le A, Norris A, Scott SD (2017) Development and Usability Evaluation of an Art and Narrative-Based Knowledge Translation Tool for Parents With a Child With Pediatric Chronic Pain: Multi-Method Study. *Journal of Medical Internet research*, 19, 12, e412. doi:10.2196/jmir.8877.

Rieger K, Schultz AS (2014) Exploring Arts-Based Knowledge Translation: Sharing Research Findings Through Performing the Patterns, Rehearsing the Results, Staging the Synthesis. *Worldviews on Evidence-Based Nursing*, 11, 2, 133-139.

Robin BR (2016) The Power of Digital Storytelling to Support Teaching and Learning. *Digital Education Review*. 30, <http://greav.ub.edu/der/>

Scott, S. D., Brett-MacLean, P., Archibald, M., & Hartling, L. (2013). Protocol for a systematic review of the use of narrative storytelling and visual-arts-based approaches as knowledge translation tools in healthcare. *Systematic reviews*, 2(1), 19.

Spinelli M, Frigerio A, Montali L, Fasolo M, Spada M, Mangili G (2016) 'I still have difficulties feeling like a mother': The transition to motherhood of preterm infants' mothers. *Psychology and Health*, 31, 2, 184–204.

Tariq, S, and Woodman, J. (2013). Using mixed methods in health research. *JRSM short reports*. 4(6), 2042533313479197.

Wilson DK, Hutson SP, Wyatt TH (2015) Exploring the role of digital storytelling in pediatric oncology patients' perspectives regarding diagnosis: A literature review. *SAGE Open*, 5, 1, 2158244015572099.