



REVIEW

Storytelling as instrument of communication in health contexts

Storytelling como instrumento de comunicación en contextos de salud

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Abstract

Storytelling (ST) has emerged as an instrument that helps us in the learning and management of the disease, by taking advantage of the teachings transmitted by other patients who have gone through the same illness: sharing experiences. It requires an interaction between the one who relates (implicit emotional and corporal language: visual, auditory and gestural) and the listener, allowing the listener to conceptualize and create more valuable ideas. The use of ST can serve as a means, establishing a network of trust and equality among participants, allowing a way of expression that would eliminate the stigmatization of suffering from a disease. In addition, telling stories can be a vehicle that breaks resistance to the messages promoting a



healthy lifestyle, or that dilutes them to face behavioral changes facilitating the incorporation of new behaviors that improve health or overcome the disease. ST facilitates support for the disease by allowing the patient to examine their emotions and problem-solving strategies, set objectives and exchange social support. With this article we intended to conduct a review of empirical studies on ST and health education, considering contexts, purposes, learning, attitudes and behaviors improvements related to the use of this tool of communication.

Keywords

Storytelling; doctor-patient communication; health education; health support; coping skills; care; self-care

Resumen

Lo que podríamos denominar “contar historias”, Storytelling (ST), se ha convertido en un instrumento que nos ayuda en el aprendizaje y el manejo de la enfermedad, aprovechando las enseñanzas transmitidas por otros pacientes que han pasado por la misma enfermedad: compartiendo experiencias. Requiere una interacción entre el relator (lenguaje emocional y corporal implícito: visual, auditivo y gestual) y el oyente, lo que le permite conceptualizar y crear ideas más valiosas. El uso de ST puede servir como un medio, estableciendo una red de confianza e igualdad entre los participantes, permitiendo una forma de expresión que eliminaría la estigmatización del sufrimiento de una enfermedad. Además, contar historias puede ser un vehículo que rompa la resistencia a los mensajes que promueven un estilo de vida saludable, o que los diluya para enfrentar cambios conductuales que faciliten la incorporación de nuevos comportamientos que mejoren la salud o superen la enfermedad. ST facilita el apoyo a la enfermedad al permitir al paciente examinar sus emociones y estrategias de resolución de problemas, establecer objetivos e intercambiar apoyo social. Con este artículo intentamos realizar una revisión de estudios empíricos sobre ST y educación para la salud, considerando contextos, propósitos, aprendizaje, actitudes y mejoras de comportamiento relacionadas con el uso de esta herramienta de comunicación.

Palabras clave

Storytelling; comunicación medico-paciente; educación para la salud; apoyo a la salud; habilidades de afrontamiento; cuidados; autocuidados



Introduction

Once upon a time...

Since we gathered around the fire until our days, telling stories has been and it is, in fact, a natural and universal way of communication in order to preserve stories, cultures or ideas and to transmit knowledge (teach). We hear stories every day and we tell them, in the same way, to friends, parents, children or grandchildren. In addition to their value and originality, they represent the experience and vision of the world of those who count them. When stories are told in a reflective, emotional and somewhat improvised way we become "narrators". Depending on how we disclose "our" history, we will be able to reach more or less people^(1,2). It must be noted that just as there are people with a natural gift to tell stories, others require learning and training. As a result, they will overcome barriers, and shared stories will be stronger⁽³⁾. The latter has led to the development of storytelling (ST) as a method of communication, a great tool to communicate. Solidarity, respect for others, or the development of imagination, dreams and hopes, are some of the outstanding values among those who accept the pleasure of ST^(2,4).

A story, a narrative, is a representation of connected events and characters that has an identifiable structure, bounded in space and time, and contains implicit or explicit messages about the topic being addressed⁽⁵⁾. People use narrative in their daily lives as they communicate and interact with others by testimonials or ST in order to exchange messages⁽⁶⁾; it is a way to share and receive information as well as a way for us to understand our own lives and those of others around us⁽⁷⁾. Contrary to this way of communication, many programs of health promotion or disease prevention are usually based on information about risks in numeric form with statistics and probabilities, and the same applies in the case of doctor-patients communication. This form of communication is not always well understood by people with low level of education⁽⁸⁾. In order to make complicated messages easier to understand, the use of narratives in health communication is increasingly being used as a strategy to educate and promote health behavior change as well as to give more quality in the doctors-patients relationships^(6,9).

In this regard, Guber proposed that every storyteller should follow four rules or truths: 1. To be truthful for the narrator, thus allowing them to express their deepest and sincere values; 2. To be truthful for the audience, making the time spent worthwhile, attending their needs and catching them with the story; 3. To be truthful with the moment, adapted to the moment (that is flexible enough to allow improvisation), and 4. To be truthful with the objective, so that the story reflects the passion and effort transmitted for the storyteller⁽¹⁰⁾. There is evidence that the memory of information when presented in this way is greater⁽¹¹⁾.



Highlighting this idea, some attributes, purposes and considerations in order to perform a good story have been established. In the majority of cases, four basic emotions are elicited: happiness, sadness, anger and fear. The same story can trigger different emotional responses, a mere smile could generate happiness or anger, depending on the context in which it occurs⁽¹²⁾.

Health education is any combination of learning experiences designed to help individuals and communities to improve their health, by increasing their knowledge or influencing their attitudes. The WHO health promotion glossary describes health education as not limited to the dissemination of health-related information but also “fostering the motivation, skills and confidence (self-efficacy) necessary to take action to improve health”, as well as “the communication of information concerning the underlying social, economic and environmental conditions impacting on health, as well as individual risk factors and risk behaviors, and use of the health care system”. A broad purpose of health education therefore is not only to increase knowledge about personal health behavior but also to develop skills that “demonstrate the political feasibility and organizational possibilities of various forms of action to address social, economic and environmental determinants of health”⁽¹³⁾.

In this field of health education, ST emerges as an instrument that helps us in the learning and management of the disease, by taking advantage of the teachings transmitted by other patients who have gone through the same illness: sharing experiences. It requires an interaction between the one who relates (implicit emotional and corporal language: visual, auditory and gestural) and the listener, allowing the listener to conceptualize and create more valuable ideas⁽¹⁴⁻¹⁷⁾. There would be a mutual benefit when patients exchange experiences related to health, which may lead to discovering new information, strategies or skills. The use of ST can serve as a means, establishing a network of trust and equality among participants, allowing a way of expression that would eliminate the stigmatization of suffering from a disease. In addition, telling stories can be a vehicle that breaks resistance to the messages promoting a healthy lifestyle, or that dilutes them to face behavioral changes facilitating the incorporation of new behaviors that improve health or overcome the disease^(18,19).

ST as a group activity, for example in a group of patients with a certain pathology, allows a network of reciprocal trust and equality among participants, mitigating the desorption associated with the disease and increasing relationships among the participants. For those who find it difficult to tell their experiences, it is a very facilitating instrument. In addition, it allows us to learn through dialogue in the traditional way of the American Indian tribes (Talking Circles). Speaking, asking, counting, sharing, all these tools of communication are facilitated by ST⁽²⁰⁻²³⁾.



The use of ST allows a transformation of both the storyteller and the group that listens: you would see diseases not as something abstract, but as something that affects me, my life and the lives of others I know.

In short, ST facilitates support for the disease by allowing the patient to examine their emotions and problem-solving strategies, set objectives and exchange social support, which is of great importance for the personal management of the disease and to create awareness of the importance of the patient as an active subject before its decay ^(24,25).

Dissemination of medical research tries to make available to the general public topics of that field in an intelligible language, devoid of, whenever possible, technique medical terms. Some authors are a clear example of this ⁽²⁶⁻²⁸⁾. However, stories do not provide the answer to everything, although they are important to understand the how and why of the changes that have occurred.

With this article we intended to conduct a review of empirical studies on ST and health education, considering contexts, purposes, learning, attitudes and behaviors improvements related to the use of this tool of communication.

Method

Following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines we systematically reviewed records that included relevant results on the use of ST in health education ⁽²⁹⁾.

Search procedure

We searched MEDLINE in January 2019. Two team members (MQ & JL) independently reviewed the study titles and abstracts to remove duplicates and to design eligible studies. Confirmation of eligibility was based on reading the full texts. In addition, a hand-search was developed to include other possible relevant studies in the field.

Inclusion and exclusion criteria

We included English- and Spanish-language studies on ST that linked this communication tool with health education. In this regard, following the WHO concept of health education we focused on “learning experiences designed to help individuals and communities to improve their health, by increasing their knowledge or influencing their attitudes” ⁽¹³⁾. The review



was limited to full-texts articles of empirical studies, with no-date limitations. Editorials, letters, commentaries and reviews were excluded.

Due the fact that many of studies were based on qualitative methodology, it was necessary to include those in which that methodology was used. In this regard, the process of considering PRISMA analysis was applied only for quantitative studies.

Quality assessment

Studies were evaluated by the authors following the Jadad scale ⁽³⁰⁾. Apart from the items related to bias control (randomization and reasons for withdrawal/dropouts) some others were considered: objectives, outcome measurements, well-defined inclusion/exclusion criteria, clear description of intervention, and statistical analyses if appropriate. A score of 2 or above was accepted. In order to measure the results of different programs of health education based on ST, the effective training evaluation plan of the New World Kirkpatrick Model was considered ⁽³¹⁾.

Data

Once the studies were selected, some data were extracted: type of publication, objectives, design, setting, ST characteristics, outcomes, and conclusions. The above-mentioned authors resolved discrepancies through discussion with the third author (MG). Both quantitative and qualitative data were analyzed.

Thematic analysis

In order to analyze the selected articles, a thematic analysis was used following the six-step framework of Braun and Clarke ⁽³²⁾: becoming familiar with the data, creating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. Fragments of data that identify a significant feature of such data were acknowledged and grouped together into related themes. As a result, the following main different topics were obtained: ST training programs, focused on clinical education (medical and nurse education), care and self-care, medical and scientific dissemination, sex and gender related topics, ageing, children and maternal problems, specific pathologies, oncology, drugs and sexually transmitted diseases, and general prevention topics.



Results

Searching process yield a total of 222 articles. After reviewing all of them, 37 were excluded because they did not fit the inclusion criteria. This way a total of 185 articles were considered.

ST training programs focused on clinical education (nurse and medical education)

Each person is the author and narrator of his/her unique life story. Telling stories is a relevant part of our lives since our birth. Due the fact that we are prone to impose meaning and structure on all information, it is possible to produce true stories when we have an appropriate base. If we do not have it, our stories can be elaborated introducing “lies” ⁽³³⁾. For clinical education, the usual context is the patient’s story of a journey from health to illness and, hopefully, back again ⁽³⁴⁾. Students might be good communicators, but still lack the ability to hear and interpret patients’ stories; it is necessary to give the patients space and time to tell their story and to actually hear what they say. In this regard, students should acquire several skills such as synthesis, analysis and reflection ⁽³⁴⁾.

In this field of clinical education, several studies have been developed focused on ST as a method in clinical replacement studies ⁽³⁵⁾; as a tool to communicate with empathy ⁽³⁶⁾; as a way to improve education rules working with patients ⁽³⁷⁾; to facilitate clinical judgement ⁽³⁸⁾; in midwifery education ⁽³⁹⁻⁴²⁾; in mental health nursing practice ⁽⁴³⁾; in order to learn from clinical placement experience analysis nursing students’ reflections ⁽⁴⁴⁾; to develop resilience considering nurse academics’ stories ⁽⁴⁵⁾; as a tool to teach spiritual care and pastoral education ^(46,47); to facilitate the reflection on medical residents prejudices toward poverty ⁽⁴⁸⁾; to promote reasoning skills in nursing education ⁽⁴⁹⁾; to improve medical students’ attitudes toward persons with dementia ^(50,51); and in the formation of novice researchers ⁽⁵²⁾.

Apart from these specific topics, there are many studies based on general nurse education ^(40,53-63) as well as on general medical education ⁽⁶⁴⁻⁶⁷⁾.

Many studies have focused on the preparation of storytellers: family and patient storytellers ⁽⁶⁸⁾, digital ST workshops ⁽⁶⁹⁾, and digital ST as a cultural relevant health promotion tool ⁽⁷⁰⁻⁷²⁾.

Care and self-care

Recent studies have explored creative processes such as ST as a tool for professional caregivers to address their self-care needs ^(38,73). ST is a social process that seems to offer



potential as a community approach to support nurses and other health care providers ⁽⁷⁴⁾. Different studies have emphasized the role of ST as a tool for improve both care and self-care. In this regard, it must be noted the research such as the one of Bruce et al. ⁽⁷⁴⁾; a study of Archibald et al. focused on asthma ⁽⁷⁵⁾; ST to improve hypertension ^(76,77); ST based interventions to improve good hygiene behaviors ⁽⁷⁸⁾; ST applied to pregnancy care ⁽⁷⁹⁾; ST for diabetes self-management ^(80,81); stories created to learn about neonatal care experience ⁽⁸²⁾; ST to support nurses and families in intensive care units ⁽⁸³⁾; ST aimed to activate patients at risk for osteoporosis ⁽⁸⁴⁾; ST to support people's experience of hemodialysis ⁽⁸⁵⁾; ST to manage shame among eating disorders patients ⁽⁸⁶⁾; self-care among patients with diabetes ⁽⁸⁷⁻⁸⁹⁾; ST to improve lifestyle for obese adolescents ⁽⁹⁰⁾; incorporation of ST into a physical activity intervention ⁽⁹¹⁾; ST to achieve better healthy lifestyles ^(14,92) and better healthy decisions ⁽⁹³⁾; connection of ST networks, education and chronic disease ⁽⁹⁴⁾; ST to improve blood pressure ⁽⁹⁵⁾; and ST to enhance children's health ⁽⁹⁶⁾.

Medical and scientific dissemination

Traditional modes of communication within the scientific community, including presentation of data at conferences and in peer-reviewed publications, use technical jargon that limits public engagement. Alternative tools that go beyond the data are required and ST would be one of them ⁽⁹⁷⁾. First-person narratives can help to make science personally relevant and can encourage people to invest in a topic. For this objective, different innovative ways might be used (e.g. comics, movies, plays and other art forms) ⁽⁹⁷⁾. ST has been applied to address health communication with minority populations ⁽⁹⁸⁾; it has been used in order to compare multi-sensory and regular ST with profound intellectual and multiple disabilities ⁽⁹⁹⁾, to engage people with intellectual disabilities ⁽¹⁰⁰⁾ and to improve communication with disabled people ⁽¹⁰¹⁾; the integration of patients stories into patient education interventions -a dissemination of lessons from theater arts-, wellness courses -e.g. for community health workers-, has been another field of ST as a tool ⁽¹⁰²⁾; storytellers have participated as partners in developing a genetics education resource for health professionals ⁽¹⁰³⁾; ST has also applied to access social context and advance health equity ⁽¹⁰⁴⁾; the shared health-related stories on the Internet has been analyzed among young people ⁽¹⁰⁵⁾; empowerment of social action through narratives of identity and culture is another topic in the field of ST and dissemination ⁽¹⁰⁶⁾.



Sex and gender related topics

Källström, Peterson and Wallenberg in their study of gendered ST have concluded that to target women, storytellers should focus to create a highly emotional story that contains sentimental elements and shows the importance of family, relationships and love. If they want to target the male audience, they should focus on creating a story that includes a character that is distinctly portrayed as a hero, information is told clearly and straight away where the males easily can identify the mission and, also emphasize statistics and status ⁽¹⁰⁷⁾. This gendered view of ST has been applied to differentiate the enactment of hookup scripts among emerging adults ⁽¹⁰⁸⁾; to promote LGBT inclusion ⁽¹⁰⁹⁾; to talk about sexuality and identity ⁽¹¹⁰⁾; in the context of occupational therapy and sexual and reproductive health promotion ⁽¹¹¹⁾; to analyze male students' stories about care ⁽¹¹²⁾; the reasons why women choose a medical practice or a women's health center for routine health screening has been also addressed by means of ST ⁽¹¹³⁾; to teach reproductive options ⁽¹¹⁴⁾; and to explore the oppression and resiliency of post-apartheid black gay men and lesbians in South Africa ⁽¹¹⁵⁾, among others.

Ageing

In the most developed countries, ageing population is increasing. ST has been applied to explore how are older people's lives in the context of their own personal histories and experiences, as well as to address their current experience of ageing. As a care technology, ST has been focused on continuing education for active ageing ⁽⁴⁾ as well as a proactive approach to healthy ageing ⁽¹¹⁶⁾. ST is also a tool to explore the accuracy of older people's story recall ⁽¹¹⁷⁾, to help older adults find meaning and purpose ⁽¹¹⁸⁾ and to stimulate creativity ⁽¹¹⁹⁾. Regarding the health state of older people, ST is an educational strategy to cope with chronic illnesses ⁽¹²⁰⁾.

Children and maternal problems

Communications between children and different caregivers (mothers, fathers, nurses, doctors) is usually improved by means of ST or mutual ST. It is possible to use the language of children to probe into areas of their thinking while bypassing conscious inhibitions or fears. A simple technique consists of asking the child to relate a story about an event, such as "being in the hospital". In the case of mutual ST, it would be possible to begin by asking the child to tell a story about something, then tell another story that is similar to the child's tale but with differences that help the child in problem areas. If the child's story is about going to the hospital



and never seeing his or her parents again, a nurse story might be about a child in the hospital but whose parents visit every day in the evening after work ⁽¹²¹⁾.

ST as an early storybook reading has been explored in the context of childhood development ⁽¹²²⁾ and ST compared with creative drama methods has been studied with respect to children's awareness about personal hygiene ⁽¹²³⁾ as well as to promote positive development ⁽¹²⁴⁾. Another application of ST is the interactive play during early childhood involving children, families, and neighborhood associations ⁽¹²⁵⁾. ST has been also applied in the context of group crisis intervention for children during ongoing war conflicts ⁽¹²⁶⁾. Multi-sensory ST is another technique to gather knowledge about preferences and abilities of children with profound intellectual and multiple disabilities ⁽¹²⁷⁾.

With respect to pathologies and health problems, ST has been proved as a useful tool for antenatal education for childbirth-epidural analgesia ⁽¹²⁷⁾, for psycho-educational interventions with children and adolescents with epilepsy ⁽¹²⁸⁾, for teaching young children about burn injury accidents ⁽¹²⁹⁾, for the promotion of children's health and oral health ⁽¹³⁰⁾, for the improvement of parenting practices ⁽¹³¹⁾, for collecting data from adolescents for the development of health interventions ⁽¹³²⁾, for parents of children with crup ⁽¹³³⁾ and others. Finally, ST has been used in pediatric dialysis units ⁽¹³⁴⁾.

Specific pathologies

Stories in the consultation begin when patients present symptoms. Information is gathering from the patients' stories (ideas, concerns, expectations, feelings, thoughts, previous experiences) and doctors' stories (signs, symptoms, investigations, underlying pathologies, differential diagnosis, ideas of management). Along with some moral and ethical dimensions, a shared story emerges, which is comprised by two stories in order to produce a working diagnosis and shared management plan ⁽¹³⁵⁾.

In this regard, ST communication tool has been used among patients with psoriasis ⁽¹³⁶⁾, diabetes ⁽¹³⁷⁻¹⁴¹⁾, obesity ⁽¹⁴²⁾, dementia ^(143,144), Di George syndrome ⁽¹⁴⁵⁾, syphilis ⁽¹⁴⁶⁾, depression ^(147,148), asthma ⁽¹⁴⁹⁾, myocardial infarction symptoms ⁽¹⁵⁰⁾, and persons with implantable cardioverter defibrillators ⁽¹⁵¹⁾, among others.

Oncology

ST is an inexpensive psychosocial intervention with minimal patient risk that may be effective for patients with chronic illness ^(152,153). ST may be particularly helpful for emotionally



vulnerable group participants who lack the energy or ability to analyze their current situations but feel better in the telling and retelling of the stories of their cancer experiences ⁽¹⁵⁴⁾.

ST is a useful tool into communication skills teaching programs for medical oncology ⁽¹⁵⁵⁾, a very good approach to analyze the impact of viewing stories of oncology patients ⁽¹⁵⁶⁾, a screening tool for cervical cancer ^(157,158), colorectal cancer ^(8,159-162) and breast cancer ⁽¹⁶³⁻¹⁶⁶⁾, an interesting way to promote cancer education ^(5,167-169), a tool for health promotion and cancer awareness ⁽¹⁷⁰⁾ and to explore de contributions of caregivers of cancer patients ⁽¹⁷¹⁾.

Drugs and sexually transmitted diseases

The use of stories as an intervention strategy, with culturally-appropriate empowering narrative, a focus on key behavior change elements (e.g., attitude/behavior change, reinforcement of targeted behaviors), and appropriate channels of dissemination, may prove to be a promising health communication tool in addressing HIV and other STD-STI health disparities ^(172,173). Thus, ST interventions on knowledge and risk perception of HIV/AIDS among school children have been developed in Africa ⁽¹⁷⁴⁾ and among the Inuit communities ⁽¹⁷⁵⁾. The antiretroviral therapy adherence has been also studied in Africa by means of ST ^(176,177). ST has also been applied to antismoking public service announcements ⁽¹⁷⁸⁾ and to enhance smoking cessation ^(179,180) as well as in drug abuse among adolescents ⁽¹⁸¹⁾.

General prevention topics

Regarding the effectiveness of narratives in sharing scientific information with the public, it seems that the persuasiveness of narratives can both benefit science communication and create challenges. Stories can sway beliefs on topics, such as vaccines. This way, awareness, knowledge, social norms and vaccination intentions have been explored in some communities ⁽¹⁸²⁾, narrative interventions have been developed for HPV vaccine behavior change among mothers and daughters ⁽¹⁷⁴⁾, and digital ST seems to be a tool to teach public health advocacy ⁽¹⁸³⁾. Another modern topic refers to the fact that it is necessary to combat (might be through ST) anti-vaccine misinformation ⁽¹⁸⁴⁾.

Other themes for application of ST have been dietetics ⁽¹⁸⁵⁾, sport courses among military personnel ⁽¹⁸⁶⁾ and fitness among university employees ⁽¹⁸⁷⁾, or to explore social determinants of health ⁽¹⁸⁸⁾.



Discussion

Communication is a basic component in patients care. Frequently the pressure in medical/nurse care makes that communication inappropriate, with the consequent worse clinical outcome. Improving this communication is not an option but a need (and a must). But an isolated communicative ability is insufficient to create and maintain a satisfactory doctor/nurse-patient relationship, which would consist of sharing perceptions and feelings in relation to the nature of the health problem, therapeutic purposes and the mandatory psychological support. The patient's satisfaction with the treatment received rests fundamentally on how such communication is fulfilled (patient-centered communication), since proper communication would help to regulate patient's emotions, facilitate the understanding of medical information and allow a better identification of their needs, perceptions and expectations ⁽¹⁸⁹⁾. All these aspects help in the patients' recovery ⁽¹⁹⁰⁾. In addition, a satisfied patient also gives some advantages to his/her doctor, since it creates a greater job satisfaction, reduces stress and reduces burnout ⁽¹⁹¹⁾.

Despite most doctors/nurses usually believe they are good communicators, there is always room for improvement, modifying or even eliminating some habits, or, in the same way, accentuating positive behaviors while removing the negative ones. Bearing in mind that ST is above and beyond a communicational tool, the relationship between doctor/nurses and patients (and their families) might be optimized by using ST. Studies revised in this context, especially those referred to ST training programs for professionals, highlight some circumstances in which ST can play a relevant role: prepare the "first" encounter with a patient, acquire skills in listening (listening is not a waste of time), transmit essential facts to patients in a comprehensible way (easy to understand), avoid cowering the patient, make eye contact (a significant nonverbal form of communication), do pedagogy (educate the patient), never overestimate the patient's ability to understand, talk the language of patients (do not rely on medicine's language) and doctors, who are human beings, so they may appear to be, from time to time, harried, unhappy, confused, ill adjusted, frustrated, etc., and they should not avoid touch the patient's shoulder for example ^(189,192).

Once again it is necessary to mention the WHO (2012) ⁽¹³⁾ when establishes that "a broad purpose of health education is not only to increase knowledge about personal health behavior but also to develop skills that demonstrate the political feasibility and organizational possibilities of various forms of action to address social, economic and environmental determinants of health".

Regarding health education, ST has emerged as an instrument that helps us in the learning and management of the disease by sharing experiences (an interaction between the



one who relates and the listener, allowing the listener to conceptualize and create more valuable ideas) ⁽¹⁴⁻¹⁷⁾. When experiences are shared, new information, better strategies and better skills usually emerge. ST is a way of expression so telling stories can be a vehicle that breaks resistance to the messages promoting a healthy lifestyle, or that dilutes them to face behavioral changes ⁽¹⁸⁾ facilitating the incorporation of new behaviors that improve health or overcome the disease ⁽¹⁹⁾ as we mentioned above.

It seems that ST facilitates support for the disease by allowing patients to examine their emotions and problem-solving strategies, set objectives and exchange social support ^(24,25). Areas such as ST training programs (medical and nurse education), care and self-care in different contexts, sex and gender related topics, ageing, children and maternal problems, specific pathologies, oncology, drugs and sexually transmitted diseases, and general prevention topics, along with medical and scientific dissemination are promising fields of study in the future. Nowadays it is absolutely crucial to disseminate medical research making each new advance available to the general public.

Based on ST there is a perspective, which is the narrative medicine (or medicine practiced with narrative skills). In this way to practice medicine, the stories of patients and their caretakers are considered integral to the experience of ill health and healing. Despite Avrahami and Reis published their article in 2009 ⁽¹⁹³⁾, some of their conclusions are still valid: "While becoming quite visible in the literature, it still forms islands rather than bridgeheads. Its further propagation seems to await both more empirical work demonstrating clinical benefits and the maturation of different educational and practical approaches. And yet, narrative medicine education emerges as a pragmatic method of ensuring efficient implementation of evidence-based care precisely because it is the best bridge we have to date between the generalizations of scientific knowledge and the practical requirement of constantly adapting these generalizations to clinically unique situations.

References

1. Gucciardi E, Jean-Pierre N, Karam G, Sidani S. Designing and delivering facilitated storytelling interventions for chronic disease self-management: a scoping review. *BMC Health Serv. Res* 2016;16:249-262.
2. Smith D, Schlaepfer P, Major K, Dyble M, Page AE, Thompson J, et al. Cooperation and the evolution of hunter-gatherer storytelling. *Nat Commun* 2017;8:1853.



3. Morrise L, Stevens KJ. Training Patient and Family Storytellers and Patient and Family Faculty. *Perm J* 2013;17:e142-145.
4. Costa NP, Polaro SHI, Vahl EAC, Goncalves LHT. Storytelling: a care technology in continuing education for active ageing. *Rev Bras Enferm* 2016;69:1068-75.
5. Kreuter MW, Green MC, Cappella JN, Slater MD, Wise ME, Storey D, et al. Narrative communication in cancer prevention and control: A framework to guide research and application. *Ann Behav Med* 2007;33:221-235.
6. Hinyard LJ, Kreuter MW. Using narrative communication as a tool for health behavior change: A conceptual, theoretical, and empirical overview. *Health Educ Behav* 2007; 34: 777-792.
7. Czarniawska-Joerges B. *Narratives in social science research*. Thousand Oaks: Sage; 2004.
8. Larkey LK, Gonzalez J. Storytelling for promoting colorectal cancer prevention and early detection among Latinos. *Patient Educ Couns* 2007;67:272-8.
9. Pérez MA, Luquis RR. *Cultural competence in health education and health promotion*. San Francisco, CA: Jossey-Bass. 2008
10. Guber P. The four truths of the storyteller. *Harv Bus Rev* 2007; 85:52-59.
11. Lindesmith KA, McWeeny M: The power of storytelling. *J Contin Educ Nurs* 1994;25:186-187.
12. Cipress P, RivaG. Computational Psychometrics Meets Hollywood: The Complexity in Emotional Storytelling. *Front Psychol* 2016;7:1753.
13. World Health Organization. *Health education: theoretical concepts, effective strategies and core competencies*. Cairo: WHO;2012.
14. Hodge FS, Pasqua A, Marquez CA, Geishirt-Cantrell B. Utilizing traditional storytelling to promote wellness in American Indian communities. *J Transcult Nurs* 2002;13:6-11.
15. Scott SD, Brett-MacLean P, Archibald M, Hartling L. Protocol for a systematic review of the use of narrative storytelling and visual-arts-based approaches as knowledge translation tools in healthcare. *Syst Rev* 2013, 2:19.
16. Scalise Sugiyama M. Oral Storytelling as Evidence of Pedagogy in Forager Societies. *Front Psychol* 2017; 8:471.
17. Abrahamson CE: Storytelling as a pedagogical tool in higher education. *Education* 1998, 118:440-451.



18. HoustonTK, Allison JJ, Sussman M, Horn W, Holt CL, Trobaugh J, et al. Culturally appropriate storytelling to improve pressure: a randomized trial. *Ann Inter Med* 2011;154: 77-84.
19. McQueen A, Kreuter MW, Kalesan B, Alcaraz KI. Understanding narrative effects: the impact of breast cancer survivor stories on message processing, attitudes, and beliefs among African American women. *Health Psychol* 2011;30:674-82.
20. Greenhalgh T, Collard A, Campbell-Richards D, Vijayaraghavan S, Malik F, Morris J, et al. Storylines of self-management: narratives of people with diabetes from a multiethnic inner-city population. *J Health Serv Res Policy* 2011;16:37-43.
21. Holm A-K, Lepp M, Ringsberg KC. Dementia: involving patients in storytelling—a caring intervention. A pilot study. *J Clin Nurs* 2005;14:256-63.
22. Struthers R, Hodge FS, Geishirt-Cantrell B, De CL. Participant experiences of talking circles on type 2 diabetes in two Northern Plains American Indian Tribes. *Qual Health Res* 2003;13:1094-1115.
23. Dale JR, Williams SM, Bowyer V. What is the effect of peer support on diabetes outcomes in adults? A systematic review. *Diabet Med* 2012;29:1361-77.
24. Funnell MM. Peer-based behavioral strategies to improve chronic disease self-management and clinical outcomes: evidence, logistics, evaluation considerations and needs for future research. *Fam Pract* 2010;27 Suppl 1:117-22.
25. Piana N, Maldonato A, Bloise D, Carboni L, Careddu G, Fraticelli E, et al. The narrative-autobiographical approach in the group education of adolescents with diabetes: a qualitative research on its effects. *Patient Educ Couns* 2010;80:56-63.
26. Damasio A. *Descartes error: emotion, reason and the human brain*. New York: Avon Book; 1994.
27. Changeux JP. *L'homme neuronal*. Paris: Fayard; 1983.
28. Sacks O. *The man who mistook his wife for a hat*. Barcelona: Anagrama;2019.
29. Moher D, Liberati A, Tetzlaff J, Altman DG; PRISMA Group. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *BMJ*. 2009;339:b2535.
30. Jadad AR, Moore RA, Carroll D, et al. Assessing the quality of reports of randomized clinical trials: is blinding necessary? *Control Clin Trials*. 1996;17:1-12.
31. Kirkpatrick J, Kirkpatrick W. *An Introduction to the New World Kirkpatrick® Model*. Newnan, GA: Kirkpatrick Partners, LLC; 2015.



32. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol* 2006;3:77-101.
33. Robertson C, Clegg G. The power of narrative and story. In: Robertson C, Clegg G (Eds.). *Storytelling in Medicine*. Boca Raton, FL: CRC Press; 2017. pp. 1-17.
34. Cumming A. Stories in medical education and training. In: Robertson C, Clegg G (Eds.). *Storytelling in Medicine*. Boca Raton, FL: CRC Press; 2017. pp. 113-130.
35. Urstad KH, Ulfsby KJ, Brandeggen TK, Bodsberg KG, Jensen TL, Tjøflåt I. Digital storytelling in clinical replacement studies: Nursing students' experiences. *Nurse Educ Today* 2018;71:91-96.
36. Kaplan-Liss E, Lantz-Gefroh V, Bass E, Killebrew D, Ponzio NM, Savi C, et al. Teaching medical students to communicate with empathy and clarity using improvisation. *Acad Med* 2018;93:440-443.
37. Roebbotham T, Hawthornthwaite L, Lee L, Lingard LA. Beyond catharsis: the nuanced emotion of patient storytellers in an educational role. *Med Educ* 2018;52:526-535.
38. Timbrell J. Instructional Storytelling: Application of the clinical judgment model in nursing. *J Nurs Educ* 2017;56:305-308.
39. Scamell M, Hanley T. Innovation in preregistration midwifery education: Web based interactive storytelling learning. *Midwifery* 2017;50:93-98.
40. Gidman J. Listening to stories: valuing knowledge from patient experience. *Nurse Educ Pract* 2013;13:192-196.
41. Mitchell M, Hall J. Teaching spirituality to student midwives: a creative approach. *Nurse Educ Pract* 2007;7:416-24.
42. Hunter LP, Hunter LA. Storytelling as an educational strategy for midwifery students. *J Midwifery Womens Health* 2006;51:273-278.
43. Treloar A, McMillan M, Stone T. Nursing in an imperfect world: Storytelling as preparation for mental health nursing practice. *Int J Ment Health Nurs* 2017;26:293-300.
44. Paliadelis P, Wood P. Learning from clinical placement experience: Analysing nursing students' final reflections in a digital storytelling activity. *Nurse Educ Pract* 2016;20:39-44.
45. McDermid F, Peters K, Daly J, Jackson D. Developing resilience: Stories from novice nurse academics. *Nurse Educ Today* 2016;38:29-35.
46. Garner SL. Patient Storytelling in the classroom: A memorable way to teach spiritual care. *J Christ Nurs*. 2016;33:30-4.



47. McLean G. An integrative professional theory and practice paper: Personal reflections from the journey through clinical pastoral education. *J Pastoral Care Counsel* 2015;69:201-14.
48. Loignon C, Boudreault-Fournier A, Truchon K, Labrousse Y, Fortin B. Medical residents reflect on their prejudices toward poverty: a photovoice training project. *BMC Med Educ* 2014;14:1050.
49. Shellenbarger T, Robb M. Technology-based strategies for promoting clinical reasoning skills in nursing education. *Nurse Educ* 2015;40:79-82.
50. George DR, Stuckey HL, Whitehead MM. An arts-based intervention at a nursing home to improve medical students' attitudes toward persons with dementia. *Acad Med* 2013;88:837-42.
51. George DR, Stuckey HL, Dillon CF, Whitehead MM. Impact of participation in TimeSlips, a creative group-based storytelling program, on medical student attitudes toward persons with dementia: a qualitative study. *Gerontologist* 2011;51:699-703.
52. Guillemín M, Heggen K. The narrative approach as a learning strategy in the formation of novice researchers. *Qual Health Res* 2012;22:700-7.
53. Wall BM, Dhurmah K, Lamboni B, Phiri BE. 'I Am a Nurse': Oral Histories of African Nurses. *Am J Nurs* 2015;115:22-32; quiz 33.
54. Christiansen A. Storytelling and professional learning: a phenomenographic study of students' experience of patient digital stories in nurse education. *Nurse Educ Today* 2011;31:289-93.
55. Stacey G, Hardy P. Challenging the shock of reality through digital storytelling. *Nurse Educ Pract* 2011;11:159-64.
56. Rose J, Glass N. An Australian investigation of emotional work, emotional well-being and professional practice: an emancipatory inquiry. *J Clin Nurs* 2010;19:1405-14.
57. McAllister M, John T, Gray M. In My Day: Using lessons from history, ritual and our elders to build professional identity. *Nurse Educ Pract* 2009;9:277-83.
58. Hunter LA. Stories as integrated patterns of knowing in nursing education. *Int J Nurs Educ Scholarsh* 2008;5:Article 38.
59. Anderson JK. An academic fairy tale: a metaphor of the work-role transition from clinician to academician. *Nurse Educ* 2008;33:79-82.
60. Giddens JF. The Neighborhood: a Web-based platform to support conceptual teaching and learning. *Nurs Educ Perspect* 2007;28:251-6.



61. Schwartz M, Abbott A. Storytelling: a clinical application for undergraduate nursing students. *Nurse Educ Pract* 2007;7:181-6.
62. Caldwell DR. Bloodroot: life stories of nurse practitioners in rural Appalachia. *J Holist Nurs*. 2007;25:73-9.
63. Evans BC, Severtsen BM. Storytelling as cultural assessment. *Nurs Health Care Perspect* 2001;22:180-3.
64. Cox LM, Logio LS. Patient safety stories: a project utilizing narratives in resident training. *Acad Med* 2011;86:1473-8.
65. Aronson L, Niehaus B, DeVries CD, Siegel JR, O'Sullivan PS. Do writing and storytelling skill influence assessment of reflective ability in medical students' written reflections? *Acad Med* 2010;85(10 Suppl):S29-32.
66. D'Alessandro DM, Lewis TE, D'Alessandro MP. A pediatric digital storytelling system for third year medical students: the virtual pediatric patients. *BMC Med Educ* 2004;4:10.
67. Murray J. Development of a Medical Humanities Program at Dalhousie University Faculty of Medicine, Nova Scotia, Canada, 1992-2003. *Acad Med* 2003;78:1020-3.
68. Hawthornthwaite L, Roebottom T, Lee L, O'dowda M, Lingard L. Three sides to every story: Preparing patient and family storytellers, facilitators, and audiences. *Perm J*. 2018;22.
69. Larkey L, Del Toro-Mejías L, DiFulvio G, Gubrium A. Narrative Influences on "Desire to Act in My Community" in Digital Storytelling Workshops for Latina Teens. *Int Q Community Health Educ* 2018;38:163-167.
70. Briant KJ, Halter A, Marchello N, Escareño M, Thompson B. The power of digital storytelling as a culturally relevant health promotion tool. *Health Promot Pract* 2016;17:793-801.
71. Lal S, Donnelly C, Shin J. Digital storytelling: an innovative tool for practice, education, and research. *Occup Ther Health Care* 2015;29:54-62.
72. Cueva M, Kuhnley R, Revels LJ, Cueva K, Dignan M, Lanier AP. Bridging storytelling traditions with digital technology. *Int J Circumpolar Health* 2013;72.
73. Treloar A, McMillan M, Stone T. Nursing in an imperfect world: storytelling as preparation for mental health nursing practice. *Int J Ment Health Nurs* 2017;26:293-300.
74. Bruce A, Daudt H, Breiddal S. Can Writing and Storytelling Foster Self-care? *J Hosp Palliat Nurs* 2018;20:554-60.



75. Archibald MM, Hartling L, Ali S, Caine V, Scott SD. Developing "My Asthma Diary": a process exemplar of a patient-driven arts-based knowledge translation tool. *BMC Pediatr* 2018;18:186.
76. Houston TK, Fix GM, Shimada SL, Long JA, Gordon HS, Pope C, et al. African American veterans storytelling: A multisite randomized trial to improve hypertension. *Med Care* 2017;55 Suppl 9 Suppl 2:S50-S58.
77. Allison JJ, Nguyen HL, Ha DA, Chiriboga G, Ly HN, Tran HT, et al. Culturally adaptive storytelling method to improve hypertension control in Vietnam - "We talk about our hypertension": study protocol for a feasibility cluster-randomized controlled trial. *Trials* 2016;14:17-26.
78. Gautam OP, Schmidt WP, Cairncross S, Cavill S, Curtis V. Trial of a novel intervention to improve multiple food hygiene behaviors in Nepal. *Am J Trop Med Hyg* 2017;96:1415-1426.
79. Riggs E, Muyeen S, Brown S, Dawson W, Petschel P, Tardiff W, et al. Cultural safety and belonging for refugee background women attending group pregnancy care: An Australian qualitative study. *Birth* 2017;44:145-152.
80. Alzubaidi H, Mc Namara K, Browning C. Time to question diabetes self-management support for Arabic-speaking migrants: exploring a new model of care. *Diabet Med* 2017;34:348-355.
81. Njeru JW, Patten CA, Hanza MM, Brockman TA, Ridgeway JL, Weis JA, et al. Stories for change: development of a diabetes digital storytelling intervention for refugees and immigrants to minnesota using qualitative methods. *BMC Public Health* 2015;15:1311.
82. Petty J. Creating stories for learning about the neonatal care experience through the eyes of student nurses: An interpretive, narrative study. *Nurse Educ Today* 2017;48:25-32.
83. Eggenberger SK, Sanders M. A family nursing educational intervention supports nurses and families in an adult intensive care unit. *Aust Crit Care* 2016;29:217-223.
84. Danila MI, Outman RC, Rahn EJ, Mudano AS, Thomas TF, Redden DT, et al. A multi-modal intervention for activating patients at risk for osteoporosis (APROPOS): Rationale, design, and uptake of online study intervention material. *Contemp Clin Trials Commun* 2016;4:14-24.
85. Rix EF, Barclay L, Stirling J, Tong A, Wilson S. 'Beats the alternative but it messes up your life': aboriginal people's experience of haemodialysis in rural Australia. *BMJ Open* 2014;4:e005945.



86. Dayal H, Weaver K, Domene JF. From shame to shame resilience: narratives of counselor trainees with eating issues. *Qual Health Res* 2015;25:153-67.
87. Williams IC, Utz SW, Hinton I, Yan G, Jones R, Reid K. Enhancing diabetes self-care among rural African Americans with diabetes: results of a two-year culturally tailored intervention. *Diabetes Educ* 2014;40:231-9.
88. Finucane ML, McMullen CK. Making diabetes self-management education culturally relevant for Filipino Americans in Hawaii. *Diabetes Educ* 2008;34:841-53.
89. Leeman J, Skelly AH, Burns D, Carlson J, Soward A. Tailoring a diabetes self-care intervention for use with older, rural African American women. *Diabetes Educ* 2008;34:310-7.
90. Weigensberg MJ, Lane CJ, Ávila Q, Konersman K, Ventura E, Adam T, et al. Imagine HEALTH: results from a randomized pilot lifestyle intervention for obese Latino adolescents using Interactive Guided Imagery SM. *BMC Complement Altern Med* 2014;14:28.
91. LeBron AM, Schulz AJ, Bernal C, Gamboa C, Wright C, Sand S, et al. Storytelling in community intervention research: lessons learned from the walk your heart to health intervention. *Prog Community Health Partnersh* 2014;8:477-85.
92. Aho L, Ackerman J, Bointy S, Cuch M, Hindelang M, Pinnow S, et al. Health is life in balance: Students and communities explore healthy lifestyles in a culturally based curriculum. *Pimatisiwin* 2011;8:151-168.
93. Montgomery M, Manuelito B, Nass C, Chock T, Buchwald D. The native comic book project: Native youth making comics and healthy decisions. *J Cancer Educ* 2012;27(1 Suppl):S41-6.
94. Kim YC, Moran MB, Wilkin HA, Ball-Rokeach SJ. Integrated connection to neighborhood storytelling network, education, and chronic disease knowledge among African Americans and Latinos in Los Angeles. *J Health Commun* 2011;16:393-415.
95. Houston TK, Allison JJ, Sussman M, Horn W, Holt CL, Trobaugh J, et al. Culturally appropriate storytelling to improve blood pressure: a randomized trial. *Ann Intern Med* 2011;154:77-84.
96. Wyatt TH, Hauenstein E. Enhancing children's health through digital story. *Comput Inform Nurs* 2008;26:142-8; quiz 149-50.
97. Killikelly A. Using the tools of informal science education to connect science and the public. *JMBE* 2018;19:1-5.



98. Lee H, Fawcett J, DeMarco R. Storytelling/narrative theory to address health communication with minority populations. *Appl Nurs Res* 2016;30:58-60.
99. Ten Brug A, Van der Putten AA, Penne A, Maes B, Vlaskamp C. Making a difference? A comparison between multi-sensory and regular storytelling for persons with profound intellectual and multiple disabilities. *J Intellect Disabil Res* 2016;60:1043-1053.
100. Read S, Nte S, Corcoran P, Stephens R. Using action research to design bereavement software: engaging people with intellectual disabilities for effective development. *J Appl Res Intellect Disabil* 2013;26:195-206.
101. Anderson ES, Ford J, Thorpe L. Learning to listen: improving students' communication with disabled people. *Med Teach* 2011;33:44-52.
102. Fix GM, Houston TK, Barker AM, Wexler L, Cook N, Volkman JE, et al. A novel process for integrating patient stories into patient education interventions: incorporating lessons from theater arts. *Patient Educ Couns* 2012;88:455-9.
103. Kirk M, Tonkin E, Skirton H, McDonald K, Cope B, Morgan R. Storytellers as partners in developing a genetics education resource for health professionals. *Nurse Educ Today* 2013;33:518-24.
104. Banks J. Storytelling to access social context and advance health equity research. *Prev Med* 2012;55:394-7.
105. Yu J, Taverner N, Madden K. Young people's views on sharing health-related stories on the Internet. *Health Soc Care Community* 2011;19:326-34.
106. Williams L, Labonte R, O'Brien M. Empowering social action through narratives of identity and culture. *Health Promot Int* 2003;18:33-40.
107. Källström J, Peterson E, Wallenberg R. Gendered Storytelling. Bachelor Thesis in Business and Administration. Jönköping University (Sweden); 2018.
108. Olmstead SB, Norona JC, Anders KM. How Do College Experience and Gender Differentiate the Enactment of Hookup Scripts Among Emerging Adults? *Arch Sex Behav* 2018;16.
109. Willis P, Almack K, Hafford-Letchfield T, Simpson P, Billings B, Mall N. Turning the co-production corner: Methodological reflections from an action research project to promote LGBT inclusion in care homes for older people. *Int J Environ Res Public Health* 2018;15.pii: E695.
110. Fiddian-Green A, Gubrium AC, Peterson JC. Puerto Rican Latina youth coming out to talk about sexuality and identity. *Health Commun* 2017;32:1093-1103.



111. Gontijo DT, de Sena e Vasconcelos AC, Monteiro RJ, Facundes VL, Trajano Mde F, de Lima LS. Occupational therapy and sexual and reproductive health promotion in adolescence: A case study. *Occup Ther Int* 2016;23:19-28.
112. Jordal K, Heggen K. Masculinity and nursing care: A narrative analysis of male students' stories about care. *Nurse Educ Pract* 2015;15:409-14.
113. Peters K. Reasons why women choose a medical practice or a women's health centre for routine health screening: worker and client perspectives. *J Clin Nurs* 2010;19:2557-64.
114. Engstrom JL, Hunter RG. Teaching reproductive options through the use of fiction: The Cider House Rules project. *J Obstet Gynecol Neonatal Nurs* 2007;36:464-70.
115. Graziano KJ. Oppression and resiliency in a post-apartheid South Africa: unheard voices of Black gay men and lesbians. *Cultur Divers Ethnic Minor Psychol* 2004;10:302-16.
116. Rodger D, Spencer A, Hussey P. Using education technology as a proactive approach to healthy ageing. *Stud Health Technol Inform* 2016;225:193-7.
117. Davis DK, Alea N, Bluck S. The Difference between right and wrong: Accuracy of older and younger adults' story recall. *Int J Environ Res Public Health* 2015;12:10861-85.
118. Scott K, DeBrew JK. Helping older adults find meaning and purpose through storytelling. *J Gerontol Nurs* 2009;35:38-43.
119. Sierpina M, Cole TR. Stimulating creativity in all elders: a continuum of interventions. *Care Manag J* 2004;5:175-82.
120. Cangelosi PR, Sorrell JM. Storytelling as an educational strategy for older adults with chronic illness. *J Psychosoc Nurs Ment Health Serv* 2008;46:19-22.
121. Perry SE, Hockenberry MJ, Lowdermilk DL, Keenan-Lindsey L, Wilson D, Sams CA. *Maternal child nursing care in Canada*. North York: Elsevier Canada (Cdn Editions);2016.
122. Sajedi F, Habibi E, Hatamizadeh N, Shahshahanipour S, Malek Afzali H. Early storybook reading and childhood development: A cross-sectional study in Iran. *F1000Res*. 2018;7:411.
123. Soleymani MR, Hemmati S, Ashrafi-Rizi H, Shahrzadi L. Comparison of the effects of storytelling and creative drama methods on children's awareness about personal hygiene. *J Educ Health Promot* 2017;6:82.



124. Wexler L, Gubrium A, Griffin M, DiFulvio G. Promoting positive youth development and highlighting reasons for living in Northwest Alaska through digital storytelling. *Health Promot Pract* 2013;14:617-23.
125. Kenney MK. Child, family, and neighborhood associations with parent and peer interactive play during early childhood. *Matern Child Health J* 2012;16 Suppl1:S88-101.
126. Thabet AA, Vostanis P, Karim K. Group crisis intervention for children during ongoing war conflict. *Eur Child Adolesc Psychiatry* 2005;14:262-9.
127. Cutajar L, Cyna AM. Antenatal education for childbirth-epidural analgesia. *Midwifery* 2018;64:48-52.
128. Rizou I, De Gucht V, Papavasiliou A, Maes S. Evaluation of a self-regulation based psycho-educational pilot intervention targeting children and adolescents with epilepsy in Greece. *Seizure* 2017;50:137-143.
129. Liu HF, Lin FS, Chang CJ. The effectiveness of using pictures in teaching young children about burn injury accidents. *Appl Ergon* 2015;51:60-8.
130. Freeman R. Storytelling, sugar snacking, and toothbrushing rules: a proposed theoretical and developmental perspective on children's health and oral health literacy. *Int J Paediatr Dent* 2015;25:339-48.
131. Cprek SE, Williams CM, Asaolu I, Alexander LA, Vanderpool RC. Three Positive Parenting Practices and Their Correlation with Risk of Childhood Developmental, Social, or Behavioral Delays: An Analysis of the National Survey of Children's Health. *Matern Child Health J* 2015;19:2403-11.
132. Hieftje K, Duncan LR, Fiellin LE. Novel methods to collect meaningful data from adolescents for the development of health interventions. *Health Promot Pract* 2014;15:714-22.
133. Hartling L, Scott S, Pandya R, Johnson D, Bishop T, Klassen TP. Storytelling as a communication tool for health consumers: development of an intervention for parents of children with croup. *Stories to communicate health information. BMC Pediatr* 2010;10:64.
134. Bers MU, Gonzalez-Heydrich J, Raches D, DeMaso DR. Zora: a pilot virtual community in the pediatric dialysis unit. *Stud Health Technol Inform* 2001;84(Pt 1):800-4.
135. Easton G. Stories in medical education and training. In: Robertson C, Clegg G (Eds.). *Storytelling in Medicine*. Boca Raton, FL: CRC Press; 2017. pp. 19-40.



136. Rasmussen GS, Kragballe K, Maindal HT, Lomborg K. Experience of Being Young With Psoriasis: Self-Management Support Needs. *Qual Health Res* 2018;28:73-86.
137. Wieland ML, Njeru JW, Hanza MM, Boehm DH, Singh D, Yawn BP, et al. Pilot feasibility study of a digital storytelling intervention for immigrant and refugee adults with diabetes. *Diabetes Educ* 2017;43:349-359.
138. Williams IC, Utz SW, Jones R, Hinton I, Steeves R, Alexander G. Recruitment of rural African Americans for research projects: Lessons Learned. *South Online J Nurs Res* 2011;11:8.
139. Bird S, Wiles JL, Okalik L, Kilabuk J, Egeland GM. Methodological consideration of storytelling in qualitative research involving indigenous peoples. *Glob Health Promot* 2009;16:16-26.
140. Greenhalgh T, Collard A, Begum N. Sharing stories: complex intervention for diabetes education in minority ethnic groups who do not speak English. *BMJ* 2005;330:628.
141. Loewe R, Schwartzman J, Freeman J, Quinn L, Zuckerman S. Doctor talk and diabetes: towards an analysis of the clinical construction of chronic illness. *Soc Sci Med* 1998;47:1267-76.
142. Griffith M, Griffith J, Cobb M, Oge V. The use of narrative as a treatment approach for obesity: A storied educational program description. *Perm J* 2016;20:102-6.
143. George DR, Stuckey HL, Whitehead MM. How a creative storytelling intervention can improve medical student attitude towards persons with dementia: a mixed methods study. *Dementia (London)* 2014;13:318-29.
144. Lepp M, Ringsberg KC, Holm AK, Sellersjö G. Dementia-involving patients and their caregivers in a drama programme: the caregivers' experiences. *J Clin Nurs* 2003;12:873-81.
145. Nicholl H, Doyle C, Begley T, Murphy M, Lawlor A, Malone H. Developing an information leaflet on 22q11.2 deletion syndrome for parents to use with professionals during healthcare encounters. *J Spec Pediatr Nurs* 2014;19:238-46.
146. Mays VM. The Legacy of the U. S. Public Health Services Study of untreated syphilis in African American men at Tuskegee on the affordable care act and health care reform fifteen years after president Clinton's apology. *Ethics Behav* 2012;22:411-418.



147. Lee HJ. Comparative analysis of a client's verbal responses in counseling sessions: quantitative case study. *Psychol Rep* 2011;108:638-48.
148. Tryssenaar J, Gray H. Providing meaningful continuing education in a changing long-term care environment. *J Nurses Staff Dev* 2004;20:1-5.
149. Yang TO, Lunt I, Sylva K. Peer stress-related coping activities in young adolescents' asthma management. *J Asthma* 2009;46:613-7.
150. McDonald DD, Goncalves PH, Almario VE, Krajewski AL, Cervera PL, Kaeser DM, et al. Assisting women to learn myocardial infarction symptoms. *Public Health Nurs* 2006;23:216-23.
151. Dickerson SS, Flaig DM, Kennedy MC. Therapeutic connection: help seeking on the Internet for persons with implantable cardioverter defibrillators. *Heart Lung* 2000;29:248-55.
152. Clarke A, Hanson EJ, Ross H. Seeing the person behind the patient: Enhancing the care of older people using a biographical approach. *J Clin Nurs* 2003; 12:697-706.
153. Utley R. The evolving meaning of cancer for long-term survivors of breast cancer. *Oncol Nurs Forum* 1999; 26:1519-1523.
154. Evans BC, Crogan NL, Bendel R. Storytelling Intervention for Patients With Cancer: Part 1-Development and Implementation. *Oncology Nursing Forum* 2008; 35:264.
155. Shaw AC, McQuade JL, Reilley MJ, Nixon B, Baile WF, Epner DE. Integrating storytelling into a communication-skills teaching program for medical oncology fellows. *J Cancer Educ* 2019;34:1198-1203.
156. Laing CM, Moules NJ, Estefan A, Lang M. "Stories Take Your Role Away From You": Understanding the impact on health care professionals of viewing digital stories of pediatric and adolescent/young adult oncology patients. *J Pediatr Oncol Nurs* 2017;34:261-271.
157. Myers KR, Green MJ. Storytelling: a novel intervention for hypertension. *Ann Intern Med* 2011;154:129-30.
158. Strickland CJ, Squeoch MD, Chrisman NJ. Health promotion in cervical cancer prevention among the Yakama Indian women of the Wa'Shat Longhouse. *J Transcult Nurs* 1999;10:190-6.
159. Larkey LK, McClain D, Roe DJ, Hector RD, Lopez AM, Sillanpaa B, et al. Randomized controlled trial of storytelling compared to a personal risk tool intervention



- on colorectal cancer screening in low-income patients. *Am J Health Promot* 2015;30:e59-70.
160. Cueva M, Dignan M, Lanier A, Kuhnley R. Qualitative evaluation of a colorectal cancer education CD-ROM for community health aides/practitioners in Alaska. *J Cancer Educ* 2014;29:613-8.
161. Cueva M, Kuhnley R, Slatton J, Dignan M, Underwood E, Landis K. Telenovela: an innovative colorectal cancer screening health messaging tool. *Int J Circumpolar Health* 2013;72:21301.
162. Larkey LK, Lopez AM, Minnal A, Gonzalez J. Storytelling for promoting colorectal cancer screening among underserved Latina women: a randomized pilot study. *Cancer Control* 2009;16:79-87.
163. Davis C, Darby K, Moore M, Cadet T, Brown G. Breast care screening for underserved African American women: Community-based participatory approach. *J Psychosoc Oncol* 2017;35:90-105.
164. Whitten P, Nazione S, Smith S, LaPlante C. An examination into audience targeting and the use of storytelling or statistical evidence on breast cancer websites. *Patient Educ Couns* 2011;85:e59-64.
165. Manglona RD, Robert S, Isaacson LSN, Garrido M, Henrich FB, Santos LS, et al. Promoting breast cancer screening through storytelling by Chamorro cancer survivors. *Calif J Health Promot* 2010;8(Spec Issue):90-95.
166. Nickerson M, Potter P. Teaching breast self-examination through pantomime: a unique approach to community outreach. *Clin J Oncol Nurs* 2009;13:301-4.
167. Cueva M, Kuhnley R, Lanier A, Dignan M, Revels L, Schoenberg NE, Cueva K. Promoting culturally respectful cancer education through digital storytelling. *Int J Indig Health* 2016;11:34-49.
168. Cueva M, Kuhnley R, Revels L, Schoenberg NE, Lanier A, Dignan M. Engaging elements of cancer-related digital stories in Alaska. *J Cancer Educ* 2016;31:500-5.
169. Vogel O, Cowens-Alvarado R, Eschiti V, Samos M, Wiener D, Ohlander K, et al. Circle of life cancer education: giving voice to American Indian and Alaska native communities. *J Cancer Educ* 2013;28:565-72.
170. Cueva M, Kuhnley R, Revels L, Schoenberg NE, Dignan M. Digital storytelling: a tool for health promotion and cancer awareness in rural Alaskan communities. *Int J Circumpolar Health* 2015;74:28781.



171. Hodge FS, Cadogan M, Itty TL, Williams A, Finney A. Culture-broker and medical decoder: contributions of caregivers in American Indian cancer trajectories. *J Community Support Oncol* 2016;14:221-8.
172. Berkley-Patton J, Goggin K, Liston R, Bradley-Ewing A. Adapting effective narrative-based HIV prevention interventions to increase minorities' engagement in HIV/AIDS services. *Health Commun* 2009; 24:199-209.
173. Lee H, Kim M, Cooley ME, Kiang PN, Kim D, Tang S, et al. Using narrative intervention for HPV vaccine behavior change among Khmer mothers and daughters: A pilot RCT to examine feasibility, acceptability, and preliminary effectiveness. *Appl Nurs Res* 2018;40:51-60.
174. Ezegbe B, Eseadi C, Ede MO, Igbo JN, Aneke A, Mezieobi D, et al. Efficacy of rational emotive digital storytelling intervention on knowledge and risk perception of HIV/AIDS among schoolchildren in Nigeria. *Medicine (Baltimore)* 2018;97:e12910.
175. Rand JR. Inuit women's stories of strength: informing Inuit community-based HIV and STI prevention and sexual health promotion programming. *Int J Circumpolar Health* 2016;75:32135.
176. Treffry-Goatley A, Lessells RJ, Moletsane R, de Oliveira T, Gaede B. Community engagement with HIV drug adherence in rural South Africa: a transdisciplinary approach. *Med Humanit* 2018;44:239-246.
177. Treffry-Goatley A, Lessells R, Sykes P, Bärnighausen T, de Oliveira T, Moletsane R, et al. Understanding specific contexts of antiretroviral therapy adherence in rural South Africa: A thematic analysis of digital stories from a community with high HIV prevalence. *PLoS One*. 2016;11:e0148801.
178. Cartocci G, Caratù M, Modica E, Maglione AG, Rossi D, Cherubino P, et al. Electroencephalographic, heart rate, and galvanic skin response assessment for an advertising perception study: Application to antismoking public service Announcements *J Vis Exp* 2017;126.
179. Cherrington A, Williams JH, Foster PP, Coley HL, Kohler C, Allison JJ, et al. Narratives to enhance smoking cessation interventions among African-American smokers, the ACCE project. *BMC Res Notes* 2015;8:567.
180. Houston TK, Cherrington A, Coley HL, Robinson KM, Trobaugh JA, Williams JH, et al. The art and science of patient storytelling-harnessing narrative communication for behavioral interventions: the ACCE project. *J Health Commun* 2011;16:686-97.



181. Moghadam MP, Sari M, Balouchi A, Madarshahian F, Moghadam K. Effects of storytelling-based education in the prevention of drug abuse among adolescents in Iran based on a readiness to addiction index. *J Clin Diagn Res* 2016;10:IC06-IC09.
182. Lee H, Kim D, Kiang PN, Cooley ME, Shi L, Thiem L, et al. Awareness, knowledge, social norms, and vaccination intentions among Khmer mother-daughter pairs. *Ethn Health* 2018;24:1-13.
183. de Castro AB, Levesque S. Using a digital storytelling assignment to teach public health advocacy. *Public Health Nurs* 2018;35:157-164.
184. Shelby A, Ernst K. Story and science: how providers and parents can utilize storytelling to combat anti-vaccine misinformation. *Hum Vaccin Immunother.* 2013;9:1795-801.
185. Fox A, Gillis D, Anderson B, Lordly D. Stronger together: Use of storytelling at a dietetics conference to promote professional collaboration. *Can J Diet Pract Res* 2017;78:32-36.
186. Carless D. Narrative transformation among military personnel on an adventurous training and sport course. *Qual Health Res* 2014;24:1440-50.
187. Anshel MH, Sutarso T. Effect of a storyboarding technique on selected measures of fitness among university employees. *Res Q Exerc Sport.* 2010;81:252-63.
188. Haque N, Eng B. Tackling inequity through a Photovoice project on the social determinants of health: translating Photovoice evidence to community action. *Glob Health Promot.* 2011;18:16-9.
189. Ha JF, Longnecker N. Doctor-patient communication: a review. *Ochsner J* 2010;10:38-43.
190. Stewart M, Brown JB, Donner A, McWhinney IR, Oates J, Weston WW, et al. The impact of patient-centered care on outcomes. *J Fam Pract* 2000;49:796-804.
191. Maguire P. Key communication skills and how to acquire them. *BMJ* 2002; 325: 697-700.
192. Ranjan P, Kumari A, Chakrawarty A. How can doctors improve their communication skills? *J Clin Diagn Res* 2015; 9:JE01-JE04.
193. Avrahami E, Reis S. Narrative Medicine. *IMAJ* 2009;11:335-338.