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What next for "counseling" in genetic counseling training: A co-production workshop exploring how CBT and ACT approaches can contribute to the genetic counseling toolkit

Rachel Davies[1] | Rachel Price Tate[2] | Nicola V. Taverner[2]

[1]Faculty of Life Sciences and Education, University of South Wales, Newport, UK

[2]School of Medicine, Cardiff University, Cardiff, UK

Correspondence
Rachel Davies, Faculty of Life Sciences and Education, University of South Wales, Newport, UK.
Email: rachel.davies1@southwales.ac.uk

Abstract

Counseling techniques are an important part of genetic counseling, and teaching of the humanistic person-centered philosophy has been central to genetic counselor (GC) training. However, other psychotherapeutic approaches, especially cognitive approaches, may also be beneficial for the GC to have in their toolkit. This paper reports on a co-production workshop with newly qualified GCs where the potential for adopting more cognitive approaches informed by cognitive behavioral therapy (CBT) and acceptance and commitment therapy (ACT) was explored. Attendees were taught about the approaches and the rationale for their use in genetic counseling and had a chance to discuss their reactions and ideas for application. The attendees saw great potential for the approaches within their practice, feeling that these short interventions can have a wide impact, including engaging patients who do not want to discuss feelings, helping people to make sense of information (not just gain knowledge), and helping people to change the relationship they have with their thoughts. They were able to identify when they already use some cognitive approaches in their practice, and to see how they could build on this to provide better patient care. The paper advocates for an introduction to CBT and ACT to be incorporated into pre-qualification training, and for more advanced training to be available to post-qualification GCs.

KEYWORDS
acceptance and commitment therapy, cognitive behavioral therapy, counseling techniques, education, genetic counseling, professional development

1 | RATIONALE

One of the main aims of genetic counseling is to enable the client to understand and adapt to the psychological implications of genetic conditions, and training in both underlying counseling philosophy and skills is essential to become a genetic counselor (GC). The humanistic/person-centered philosophy has been a major influence on this training and fits with the empowerment philosophy within genetic counseling (Evans, 2006). In particular, the major influence of the Rogerian core conditions (empathy, non-judgmental positioning of the counselor, and an unconditional positive regard; Rogers, 1951) fits well with the standpoint of a non-directive but facilitative stance of the GC (Evans, 2006).

However, the humanistic approach alone may not provide all of the tools required by the genetic counselor to enable the patient to complete the multiplicity of tasks of genetic counseling

(Davies, 2024). Davies (2024) considered the various cognitive tasks that the genetic counselor is interested in: decision-making, facilitating coping, helping people to clarify their thinking, adaptation, cognitive assimilation of information, and taking control of reactions such as anxiety (Biesecker et al., 2016; Redlinger-Grosse, 2017). Learning about cognitive behavioral therapy (CBT) may help GCs to address these tasks, as previously argued by Biesecker et al. (2016) and David et al. (2016), and the newer "third-wave" CBT-derived approaches such as acceptance and commitment therapy (ACT; Broley, 2013) can provide additional approaches that they may want to consider.

Based on the hypothesis that working in a CBT or ACT-informed way can enhance GC current practice, a workshop was designed for newly qualified GCs to explore this concept and how these approaches could be used in their practice.

What is known about this topic

Training to become a genetic counselor involves learning about a counseling philosophy, and most genetic counselors are trained using the person-centered counseling philosophy. However, other counseling philosophies may also be beneficial to achieve the goals of genetic counseling.

What this paper adds to the topic

Newly qualified genetic counselors could see the potential benefit of also using cognitive approaches in their practice to facilitate patient understanding and adaptation, and thus the value of an introduction to CBT and ACT to genetic counselor training.

2 | PURPOSE

This paper describes a co-production workshop for newly qualified GCs run by an experienced counseling psychologist who has worked with student GCs for 3 years and two GC trainers, who are faculty on the MSc Genetic and Genomic Counseling at Cardiff University and have clinical roles. The aim of the workshop was to share CBT and ACT ideas, facilitate discussion on their applications within genetic counseling practice, and build confidence to bring CBT and ACT-informed ideas into the intervention toolkit.

3 | FORMAT

The Association of Genetic Nurses and Counselors, the professional body for GCs in the UK and Ireland, supports a network of newly qualified GCs who qualified within the past 3 years. These GCs were invited to take part, with 26 attending the workshop run in July 2022. The event was run as a co-production workshop to explore whether a key stakeholder (GCs) could also see the benefit of the use of CBT and ACT in genetic counseling and ensure that their voice was strongly represented. Co-production is a movement that promotes multi-stakeholder involvement by employing principles of equality, accessibility, reciprocity, transparency, and informed consent (Redman et al., 2021). The ethos of co-production informed practical elements of the workshop. For example, participants gave informed consent for their views to contribute to be captured for this publication, and they received, in return, a free training event.

The workshop comprised of (see Table 1):

1. Didactic content on CBT, an introduction to ACT, the use of metaphor, and the applications of all these ideas within genetic counseling
2. Structured small group discussions in response to the material presented and considering applications to attendees' own practice contexts
3. Exercises to try out CBT and ACT interventions

TABLE 1 Structure of the co-production workshop.

Workshop elements
1. Welcome and introductions
2. Role of counseling within GC practice and emotional versus cognitive processing
3. Small group exercise on the focus of emotional versus cognitive processing in GC appointments and the identification of cases where cognitive approaches may be helpful
4. What is CBT and why could it be helpful to your GC practice (didactic)
5. Small group exercise reflecting on when a cognitive/behavioral approach was used and how this could be applied to a particular case
6. Introduction to ACT and its relevance to GC practice
7. Small group exercise about how ACT could be used in GC clinic
8. Working with metaphor
9. Individual reflection on the use of CBT/ACT in own practice
10. Summary and close

The didactic content around CBT and ACT was designed and delivered by the counseling psychologist, and the GC trainers contributed to the casework.

4 | IMPLEMENTATION

Attendees at the workshop agreed that a large proportion of many GC appointments are focused on information giving and that, in their experience, GCs usually focus on emotional rather than cognitive processing. They identified types of cases that they felt were suitable for a more cognitive approach (see Table 2), including patients who have difficulty with or do not respond to questions about their feelings. Some attendees reported that these patients may leave them feeling deskilled and less able to help, and that

TABLE 2 Examples of cases which may be suitable for a more cognitive approach, and of areas where participants identify working at a cognitive or behavioral level.

Types of cases which may be suitable for a more cognitive or behavioral approach	Areas where participants are already working at a cognitive or behavioral level
Patients and family members who struggle to respond to questions about "feelings".	Giving lifestyle advice—brainstorm ways to reduce risk and explore thoughts about what is best and most effective for them.
Using cognitive processing when GCs are unsure whether the patient has understood the information.	Discussing coping strategies
High-emotion sessions, for example, when first learning about information or receiving difficult results—GCs cannot "fix" those difficult emotions but can help them assimilate the information.	Anxiety management either at critical times, such as waiting for results, or when living with own or family member's illness
Health secrecy when patients do not want to disclose to other relatives. By helping them to think this through more, this will hopefully lead to greater openness.	Offering telephone appointment to avoid "re-traumatizing" after bad memories in that hospital
Couples with different coping strategies, helping them to recognize these in the other and maybe cope better with the difference.	Discussing information-seeking behavior and the extent to which this helps or hinders patient and other family members
Relatives for whom the diagnosis is distant, so it is hard for them to understand implications.	Exploring previous strategies for managing uncertainty, for example, when waiting for results
	Practical conversations about support and recommendations of support groups

it would be useful to have a different approach to working with them. They also identified areas in which they are already working at a more cognitive or behavioral level (see Table 2) and could see that this is already a significant part of the GC role. This awareness enabled them to see the value of this approach, and it was discussed that they could apply this in a purposeful manner in future sessions.

Some attendees acknowledged some fear around the impact on the counseling side of the role, for example, being too directive, offensive, or judgmental by implying that their thoughts were "wrong" and needed to be replaced by "better" thoughts. However, there was a high level of consensus that it was a better or more realistic strategy to help people change their relationship with their thoughts than the thoughts or behaviors themselves. There was agreement that patients' relationship with their thoughts could be holding them back. For example, several attendees thought that patients' thoughts can lead to disengagement, if they are fixed in their thinking so not engaging with anything new, or if their fear inhibits them from utilizing genetic counseling. If they engage but their thinking is holding them back, there can be a refusal to make decisions or engage with screening that is a mentality of "sticking head in sand". Other attendees noted that over-engagement can also result from being overwhelmed by thoughts, such as patients who want screening they do not medically need or are "revolving door" patients who are never satisfied with what they get from appointments. An interesting idea emerged in one group about whether patients may not recognize that thinking in a certain way could be trapping them. If this is the case, psychoeducation around the whole concept of changing the relationship you have with thoughts could create the potential for positive change.

Identification of the possibility of challenging the relationships that patients have with their thoughts enabled attendees to suggest specific interventions that they could use in clinic. These included encouraging patients to focus on their main concerns if they are feeling overwhelmed, normalizing worrying as part of coping, and thinking ahead to ways of coping. This was developed further by thinking about the use of metaphor, and attendees suggested metaphors that they had used or could use in clinic (see Table 3). Many attendees had used metaphor to explain genetic concepts (such as changes in a cake recipe to explain genetic variants or brakes not working to explain cancer predisposition), and some were able to describe metaphors used that had been triggered by the patient's interests. They went on to suggest metaphors that could be used to talk about patients' emotional and cognitive processing.

Several attendees spoke of the benefits of discussing metaphors in groups, not only at the workshop but within genetic counseling supervision groups. First, some people struggled to generate metaphors but found ideas from other GCs that made sense to them, and they were able to elaborate on an idea for their own practice. Second, people were able to acknowledge that one size did not fit all—some metaphors appealed to some people more than others, and this would apply in practice between patients as well. For example, one GC suggested the idea that changes in genes are "innocent until proven guilty" in the context of variants of uncertain significance, but some of the group were concerned that this may be badly received.

While some attendees felt the training had increased their confidence to try out a metaphor to see if it resonated with the patient, others were keener on the idea of working with metaphors generated by the patient themselves. Some people discussed ways of eliciting these, for example, asking someone to explain how they are visualizing something, and several people emphasized the benefit of noticing a metaphor in the patient narrative that could be picked up by the GC. The reality is that there are always multiple choice points in which aspects of what a patient says are commented on or followed up on by a question. Some attendees acknowledged that lacking confidence with metaphor has meant that they have let patient-generated metaphors go and that this has potentially been a missed opportunity. One interesting idea

TABLE 3 Examples of interventions and metaphors that could be used.

Interventions	Metaphors
• Encourage them to prioritize their thoughts and focus on main concerns if overwhelmed with too many things. • Normalize worrying as part of coping, rather than being an overwhelming experience. • Explore that we cannot change circumstances but can change outlook/approach. For example, they have always had this genetic variant—does knowing about it change their relationship with themselves and/or their relatives? • Questioning if thoughts help them to live the life they want or limit their day-to-day activities. How can they look at things in a different way that limits them less. • Suggesting setting a time to worry to take control over the space that worries take. • Thinking ahead about ways of coping so to have more control ahead of results appointments. • Noting inconsistencies, for example, when describing family as really close but not sharing with them, or when feelings and action are out of sync, such as they are very worried but not doing anything about that worry. • Challenge the patient when you sense they are being hard on themselves. • Make it OK for all ways to think about things to be OK, as they may believe they should feel or present in a particular way.	• Two-hit hypothesis for cancer—wall and moat protecting castle, if one is already compromised easier for castle to be overwhelmed • Missing jigsaw puzzle pieces—still end up with a nice picture overall • Heart structure and function described as plumbing and pipes • Brakes on bike/car (for cancer predisposition). • Patient was little girl who liked dancing—used metaphor of a "couple of extra steps" in a dance that makes her unique (relating to a chromosome duplication), not bad but different. Mother had translocation—used analogy of part of the dance being in the wrong place • Patient who plays a lot of sport has some things within their control, like how much they practice (everything they can do to look after their health), but some things out of their control like what their opponent does (the illness trajectory). • Driving in fog without lights on—life without diagnosis/with uncertainty • A lid about to come off a pan of boiling water—think about how to ease pressure, let off a bit of steam. • Think of revealing result as cascade, or pebble-causing ripple effect. • Net analogy. If patient has lots of worries, ask them to imagine these in a net—putting everything together. Use this to prioritize—are there things they can take out of the net? Extending metaphor—net is stretchy, can accommodate new things—means patient can cope with another thing; net can be held by more than one person so others can help.

for the application of metaphors was how they could be used to help patients have conversations with family members, including young people, following a genetic counseling appointment. Identifying, developing, and practicing talking through metaphor in sessions may better equip patients to have these difficult conversations in age-appropriate ways.

Finally, attendees had the opportunity to share what they were taking away from the day (see Table 4), indicating that they were able to identify ways in which CBT/ACT could be helpful to their GC practice as another tool in their toolkit.

TABLE 4 What attendees are taking away from the workshop.

Quotes from attendees
Having more in the toolkit to use with patients—that is, powerful things GCs can do with brief interventions in short appointments
Unpicking patient's language about "I feel," "I think," and "I do," and how picking up on these cues can help enhance the therapeutic alliance and reframe some questions that may not land.
Noticing that a GCs "go-to" may be to provide emotional support, and that patients are sometimes asking for cognitive support.
A session can be productive if helping a patient assimilate their thoughts, which is a much more attainable, realistic, and potentially useful objective than trying to change their thoughts.
To help patients adapt to the information that GCs are giving them.
Reassuring to find out that some of what GCs do already is cognitive or behavioral.
CBT and ACT are really suited to genetic counseling and could make a difference in the way we support patients to help them adjust to the information we provide.
A new angle to explore with patients regarding the relationship they have with their thoughts, particularly for those who may not be as open to talking about emotions and coping in such an "obvious" way.

5 | REFLECTIVE SUMMARY

The workshop aimed to explore the idea that GCs can benefit from having some understanding of CBT and ACT approaches. The key argument is that cognitive processing, in particular assimilation of information, is essential for genetic knowledge to be meaningful to patients and yet genetic counseling tends to focus on the transmission of information and emotional support. Ellington et al. (2011) argued that a recalibration needs to occur so that counselor interventions support cognitive as well as emotional processing, and this training could contribute to this. The feedback from trainees was wholly positive, as they could all see the utility of these approaches in their genetic counseling.

It was decided to offer this workshop to newly qualified GCs as they are early in their career, so not yet fixed in their approaches, and actively looking for new approaches for dealing with patients who are not responding to the approaches that they are currently using; for more experienced GCs, they are likely to already have developed strategies for these cases. As the attendees can see the benefit of these approaches, it will now be important to explore this with experienced GCs to see whether they agree and explore when may be the most appropriate time to offer this training. There was value in offering this as continuing professional development, but it could be questioned whether it may be beneficial in pre-qualification training. The advantage of this would be

that interventions for cognitive processing become core to what it means to be a genetic counselor, get tried out on placement and subject to feedback and fine-tuning from qualified GCs and supervisors. The rationale for inclusion of the cognitive approach can also be taught as theory content during training. However, there is also an argument that the Rogerian person-centered philosophy needs to be taught pre-qualification, as it underpins the profession and is mainly new knowledge for trainees who come from a science background. Also, from a pragmatic standpoint, the pre-qualification curriculum is already substantial, and it is not clear what would be sacrificed in order to include significant cognitive content.

6 | RECOMMENDATIONS for GC EDUCATION AND POST-QUALIFICATION TRAINING

This paper has sought to make the case that GCs can benefit from having some understanding of CBT and ACT approaches. The authors suggest that pre-qualification training continues with an underpinning in the core conditions and basic skills, but also includes an introduction to what CBT and ACT can offer to the genetic counseling process. There could then be additional CBT and ACT training post-qualification, similar to the workshop reviewed here, to ensure that GCs have the skills to use these approaches in their practice.

AUTHOR CONTRIBUTIONS

Rachel Davies, Rachel Price Tate, and Nicola V Taverner confirm that they had full access to the outputs from the workshop and take responsibility for the production of this output and its reporting here. All of the authors gave final approval of this version to be published and agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. Rachel Davies: conceptualization, facilitated the AGNC workshop, analysis of workshop output, writing—original draft, review, and editing. Rachel Price Tate: facilitated the AGNC workshop, analysis of workshop output, writing—review and editing. Nicola V Taverner: conceptualization, facilitated the AGNC workshop, analysis of workshop output, writing—review and editing.

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CONFLICT OF INTEREST STATEMENT

Authors Rachel Davies, Rachel Price Tate, and Nicola V Taverner declare that they have no conflict of interest.

ETHICS STATEMENT

Human Studies and Informed Consent: Informed consent was obtained verbally from workshop attendees to share the output, in accordance with co-production principles.

Animal Studies: No non-human animal studies were carried out by the authors for this article.

ORCID

Rachel Davies https://orcid.org/0000-0001-7951-4597

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