



Original research

Effects of dyslexia on registered nurses in practice

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A B S T R A C T

While there is a growing body of research on the effects of dyslexia on student nurses, this is not the case for registered nurses. The purpose of this paper is to report key findings of a study that investigated the experiences of registered nurses who have dyslexia. The main aim of the study was to identify how dyslexia might affect registered nurses, with a particular focus on practice. A narrative lifecourse approach was taken to explore the experiences of 14 registered nurses who have dyslexia from across Great Britain. In depth interviews were conducted between October 2014 and November 2015. Template analysis of the interview data resulted in five main themes: career choices, decision to disclose, effect on practice, compensatory strategies, and support from others. The study demonstrated that there is still a perceived stigma attached to having dyslexia and that there continues to be a lack of understanding amongst colleagues, which affects disclosure and access to support. However, the registered nurses had developed many different compensatory strategies to enable them to practise effectively and that patient safety was paramount to them.

1. Introduction

Dyslexia is a Specific Learning Difficulty or Difference (SpLD) which affects around 10% of the population, 4% severely (British Dyslexia Association, 2012b). Although the definition of dyslexia is not fixed, it is generally accepted that it primarily affects skills in accurate and fluent word reading and spelling, causes difficulties in phonological awareness, verbal memory and verbal processing speed, and occurs across the range of intellectual abilities (Rose, 2009). It is not known how many nurses have the condition (Sanderson-Mann and McCandless, 2005). However, research has shown that people who have dyslexia might be drawn to people-orientated careers with a higher practical component and less structure than an office based profession (Taylor and Walter, 2003). Although the work reported in this paper was undertaken in Great Britain, in other international contexts it is also recognised that dyslexia can widely impact on the everyday lives of adults (Hoyles and Hoyles, 2010). While there is a growing body of evidence about the effects of dyslexia on the experiences of student nurses, there is very little currently available focussing on registered nurses (Gilllin, 2015) and how dyslexia affects their practice.

2. Background

Pre-registration student nurses generally disclose their dyslexia in the classroom, however, some, but not all, choose to do so in practice (Child and Langford, 2011; Dale and Aiken, 2007; Evans, 2014a; Morris and Turnbull, 2006, 2007a; Ridley, 2011; Sanderson-Mann, 2006). One

reason that nurses may be reluctant to disclose their dyslexia is the stigma attached to the condition (Morris and Turnbull, 2007a; Riddick, 2000). However, a key reason identified for disclosure in both student and registered nurses was to maintain patient safety (Illingworth, 2005; Morris and Turnbull, 2007a). Disclosure of dyslexia is important though as without disclosure, nurses are unable to access reasonable adjustments that are entitled under equality and disability legislation (Americans with Disabilities Act, 1990; Disability Discrimination Act, 1992; 1995; Equality Act, 2010). Despite this, research further suggests that there is a tension between the notion of inclusivity required by the equality and disability legislation and the regulatory requirements of the health and social care professional bodies (Carey, 2012; Snashall, 2009).

Despite the negative perceptions of dyslexia, it is also important to recognise the positive benefits that individuals who have dyslexia bring to health care. Individuals who have dyslexia are often very insightful and intuitive (Davis, 2010), have good problem-solving skills (Reid, 2009), increased spatial awareness (Roberts, 2009), have a good long term memory (Doyle, 2014), although they are likely to have difficulty with working memory (Bartlett et al., 2010) and be creative and lateral thinkers (Leather et al., 2011). Student healthcare practitioners who have dyslexia also identified that they had greater empathy due to the difficulties that they had experienced due to disabilities, all of which enhanced patient care (Hargreaves et al. (2013).

Dyslexia is a lifelong condition (British Dyslexia Association, 2012a) and while many nurses who have dyslexia will have developed strategies to compensate for their difficulties, there is very little literature on

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the individual strategies that might be used by registered nurses in practice and learning environments (Gillin, 2015). Against this backdrop, this paper considers the effect of dyslexia on registered nurses, and reports on registered nurses' experiences of dyslexia and the impact that this has had on their careers and practice. The data presented in this article is part of a wider study, which also investigated the nurses' experiences of learning and that of lecturers who had supported registered nurses who have dyslexia.

3. Research design

In order to explore the broad research question 'How has dyslexia affected registered nurses?' an interpretive narrative lifecourse approach was used. Semi-structured in-depth interviews were undertaken, with participants being asked to give specific examples and to describe experiences (Chase, 2013). Narrative interviewing generates detailed accounts which can address one incident to a whole life course or career (Riessman, 2008). This approach is seen as eliciting big stories which investigate the overall experience and are individually orientated, as opposed to small stories which prioritise events and may be more socially orientated (Squire et al., 2008). The use of in-depth semi-structured interviews can also help to prepare the participants if they are given the questions prior to the interview, something that was done in this case. This allowed them to gather their thoughts as well as prepare psychologically for what could be an emotional process of discussing their thoughts about their lives (Riessman, 2008) as well as assisting with any reduced auditory processing speed which might be associated who have dyslexia (Reid, 2009).

4. Sample

Fifteen registered nurses were interviewed, although one subsequently withdrew from the study leaving fourteen. Of these nurses three were male and eleven female, who had been registered between two and thirty-three years. Nine of the nurses were recruited from islands within Great Britain through poster and email advertising, with a further five from the United Kingdom through Twitter. A summary of participants is presented in Table 1.

5. Ethical issues

The ethics of narrative research are particularly important as the participants can be particularly vulnerable. For example, reliving past experiences maybe distressing to some participants, although it may also be cathartic (McAdams, 2008). This was managed as sensitively as

possible, including giving participants time and allowing them to stop or withdraw from the study. Disclosure of dyslexia is also a sensitive issue. Confidentiality is of paramount importance in this process.

Ethical approval for the study was obtained through local ethics committees and a University Human Research Ethics Committee (HREC/2014/1573/Major/3). Informed consent was assured through the use of participant information sheets and a website about the study. Participants were also reminded of the requirement to report unsafe clinical practices (Nursing and Midwifery Council, 2015).

6. Data collection

Two to 3-h long interviews were conducted either face to face, via telephone or using Skype depending on the participants' preferences and geographical limitations. The interviews were transcribed verbatim and then turned in to stories as advised by Ellis and Bochner (2000). The method of storying the narrative interviews was adapted from McCormack (2004). Audio versions were returned to them as well as written copies as an adjustment for their dyslexia. The stories allowed participants to confirm the content, context and feelings were correctly conveyed (Ellis and Bochner, 2000), without having to concentrate on exact grammar and expression. The stories also allowed participants to identify personal information divulged during the interview that they may not have wanted to be used in the research (Bell, 2005; Holloway and Freshwater, 2007).

7. Data analysis

The stories were analysed using Template Analysis. Template Analysis gave structure to the analysis but also allowed a degree of flexibility which is important with complex narratives (King, 2012). A coding template was developed from the first story transcript, which was applied to the second transcript, modified and then reapplied to the first transcript (King, 2012). Initial coding was completed manually then entered into NVivo, which allowed for the coding to be more easily modified and reviewed. Common and divergent themes were elucidated from the analysis of each of the interviews and these themes were discussed with the participants through the use of an asynchronous online focus group. As dyslexia is a potentially sensitive issue, confidentiality was maintained within the online discussion forum through the use of pseudonyms. This method of encouraging the participants to participate in the development of the themes is in keeping with the narrative approach, with an attempt being made to maintain the voice of the participants throughout, reflecting the notion that the participants' interpretations were as important as the researchers

Table 1
Information about nurse participants.

Nurses Participating in the Research					
Pseudonym	Age group	Age when "diagnosed" with dyslexia	Area of practice	Number of years registered as a nurse	Highest academic level of qualification
Sam	30–34	8	Learning Disability Specialist	9	Masters
Vic	25–29	16	Adult Accident and Emergency	7	Non-honours degree
Jamie	25–29	20	Adult community	5	Honours degree
Jo	30–34	16	Nursing home	5	Diploma
Charlie	25–29	23	Adult mental health	2	Diploma (working towards degree)
Reece	25–29	13	Theatres	4	Diploma plus a degree module
Ashley	25–29	22	Adult Intensive Care	2	Diploma
Lesley	50–54	49	Paediatric education	29	PhD candidate
Dom	50–54	13	Specialist Adult	26	PhD candidate
Kelly	30–34	approximately 7	Adult Intensive Care	10	Advanced Diploma
Danni	35–39	18	Specialist Mental Health	13	Honours Degree
Andy	50–54	38	School Nurse	33	Diploma
Pat	30–34	18	Adult and Paediatric acute specialist	12	Honours Degree
Adi	35–39	20	Adult renal	14	Honours Degree

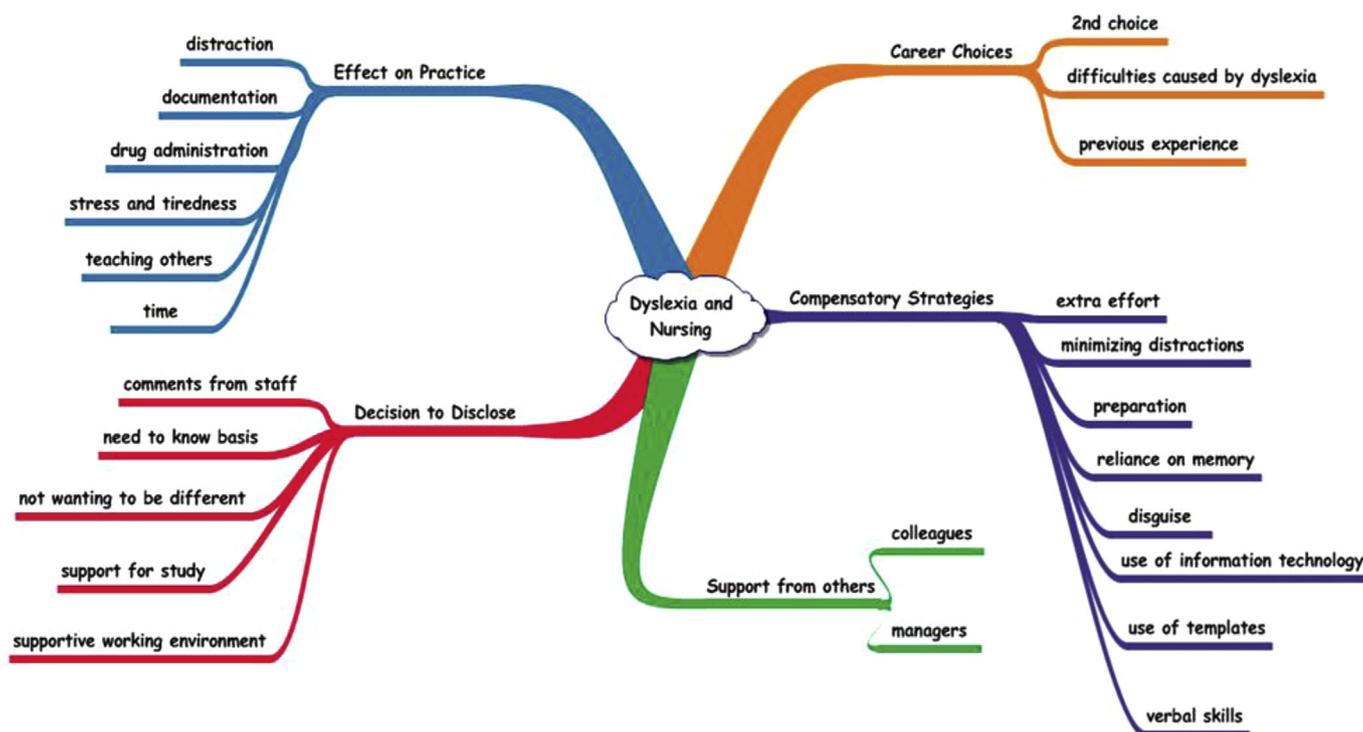


Fig. 1. Dyslexia and nursing sub-themes.

(Hollingsworth and Dybdahl, 2007). From the analysis five key themes were identified which were career choices, decision to disclose, effect on practice, compensatory strategies and support from others, which are shown in Fig. 1.

8. Findings

8.1. Career choices

Once they had entered the nursing profession all participants made choices about their ongoing careers. Participants discussed how having dyslexia either affected their career progression or options particularly those who had not yet been able to achieve a degree level qualification:

I'm held back because I don't have a degree and I don't engage in academic courses. (Kelly, Adult Intensive Care Nurse)

Australia they don't take diploma level nurses, they only take degree levels and I haven't got my degree so and I can't go. (Reece, Theatre Nurse)

The choice to become a nurse was often influenced by either family role models or previous experience with the health services. When registered the choice of career path was often influenced by their experiences in practice and support from the team, as well as the ease of use of documentation.

8.2. Decision to disclose

All of the participants discussed comments from staff affecting their decision to disclose, either having a positive affect or inhibiting disclosure. These included staff discussing how nurses who have dyslexia were unsafe and should not be allowed, being treated as if they were stupid, other staff not believing that the nurse had dyslexia or others disclosing that they had dyslexia too.

One participant did not initially disclose on their first ward after qualifying as a nurse as they did not want to be treated differently. However, they did disclose when they were faced with comments from

other nurses about their documentation. The disclosure did allow them to have some support, although it was not always a positive experience:

They said why don't you keep a book of spellings in your pocket so that's when I started to write words down. I think was meant to come across in a supportive way but it was in the middle of handover so there were lots of people around so it didn't feel very supportive. (Jo, Adult Nurse, Nursing Home)

Several of the participants felt that they disclosed on a need to know basis and there were concerns that they would be treated differently after the disclosure. For some it was because they were having difficulties caused by dyslexia which were affecting their practice.

Others felt that people didn't really need to know because they had developed strategies to compensate and when they had disclosed previously they had not been believed or didn't want advice from people who didn't understand dyslexia. Some participants felt that they had to disclose before anyone else commented:

I always say to them I have dyslexia so if I do spell something wrong on the whiteboard please point it out to me because sometimes I don't realize that I've spelt something wrong. (Lesley, Paediatric Nurse Lecturer)

A common theme that emerged was that the participants did not want to be treated differently by either peers or colleagues. Participants repeatedly said that they did not want to use dyslexia as an excuse or be seen to be using it as an excuse. They were also concerned that others may think that they were receiving special treatment. Confidence to disclose was increased by a supportive working environment and colleagues. Participants also discussed how it was easier to disclose when their colleagues saw them as a credible practitioner.

I think when you work with people for a while and particularly when you're working with them face-to-face, after a while they kind of just know it's you. You have to recognise that that it is easier to disclose if you have credibility definitely. (Dom, Adult Specialist Nurse)

Working environments which were used to supporting people with 'differences' were seen as more supportive, such as mental health and learning disability services.

8.3. Effect on practice

Most of the participants discussed how distraction affected their writing and concentration, giving examples of how they would include other people's conversations in their writing. Reading also took longer for some, as well as handover.

Unsurprisingly documentation was an area that caused some difficulties for the participants, with others suggesting that poor hand writing was particularly difficult to decipher:

I'm not the best at trying to decipher the doctor's handwriting sometimes, if it is quite bad and I completely put my hands up to that, so I will always say to someone 'can you read that because I can't. (Pat, Adult and Paediatric Acute Specialist Nurse)

The time taken to complete documentation was exacerbated by slow handwriting, writing care plans in rough first, or in some cases being asked to rewrite them. However, others had more supportive colleagues that allowed time and space.

In practice I allow myself more time to write, the note writing and the team were fine with that. Yesterday I was at work till five rather than half four to get my notes done as there was a risk involved so I needed to get them right. (Charlie, Mental Health Nurse)

All of the participants discussed not being able to proof read their work effectively.

All of the participants discussed drug administration, being very aware of their responsibilities and taking extra care both in administration and calculations. Pronunciation of drugs also caused some participants difficulties.

I am exceptionally careful with drug administration. I think perhaps I am more careful than others. I think that there is too much emphasis on speed. You know if someone has to wait three minutes extra for an antibiotic it is not going to kill them. (Vic, Acute Adult Nurse)

One participant took this extra care to an extreme, avoiding drug administration unless supervised;

"I won't do the clinic on my own, I just make excuses for why I don't do it. I haven't got the confidence of trusting myself with something that clinical, what if I get the wrong drug." (Andy, School Nurse)

Stress and tiredness appeared to make all the participants symptoms of dyslexia worse, especially spelling and written documentation and caused symptoms of dyspraxia to co-occur for some. Those with more senior positions discussed how they had adjusted hours to enable them to have a lunch break to compensate for this.

All of the participants had either completed a teaching course or were planning to shortly. Several of the participants had education of staff as a major part of their role. They often felt that having dyslexia made them better teachers.

8.4. Compensatory strategies

All of the nurses had developed compensatory strategies to enable them to have registered as a nurse and to maintain their professional responsibilities. Some were very effective and would be of benefit to all nurses, however others were less positive.

Several of the participants discussed how they avoided certain words that they couldn't spell or disguised their spelling in some way so that any spelling mistake wasn't as obvious.

I didn't know which way around certain letters were, I could quite easily make that bit of my words look like it could be either way or the other. So it wasn't illegible to look at the word. Any reader could still see what the word was. But if you looked closer, Is and Es might be squiggly linked together. (Danni, Mental Health Specialist Nurse)

All of the participants discussed the extra effort that was required,

either with learning new tasks, writing or being extra cautious to avoid mistakes. Several also discussed writing and rewriting notes and assignments to ensure that they were correct:

I need to understand, I won't remember stuff because I have been told it, I need to understand it, to over learn it to a certain degree so that you keep doing it over and over again until it clicks. (Adi, Renal Nurse)

All of the participants tried to minimize distractions as much as possible so that they could concentrate on what they were writing or reading.

Many of the participants particularly discussed how they had to be organised to ensure that they were able to function appropriately at work, organising bed spaces, making lists and being proactive, ensuring that they wrote up their notes at they went:

I've learned to cope and avoid that by doing my notes as I go rather than having a mammoth writing session at the end of a 12-h shift. (Ashley, Adult Intensive Care Nurse)

Two of the participants discussed how they would work out what they had to read if asked to read out loud and practice this beforehand. They would read all the documents prior to a meeting or prepare what they were going to do the next day the night before. For a training session, one participant prepared the whiteboard so that it would not be necessary to write in front of the class and also to ensure that all the important aspects were covered.

All participants discussed how they had spent time going over important information over and over again to commit it to memory, although some found that their memory was not entirely reliable so relied on written prompts. Several participants felt that they had developed good visual memories and in particular were able to remember things that they had been shown or that they had seen quite quickly.

All of the participants felt that the use of a word processor was beneficial to them with the use of spell checkers seen as being particularly important:

I do heavily rely these days on spell check and Word documents. If I didn't have those I think I would really, really struggle. (Danni, Mental Health Specialist Nurse)

However, spell checkers were not always effective as the wrong word was used or they were in the wrong order. Some had the opportunity to use specialist software, although often not taught how to use it effectively if at all. Without tuition, these resources were often not utilized. The use of voice recorders for practice was not something that was really discussed, although several participants had been issued with them, especially as students.

Participants discussed the benefits of electronic health care records which enabled them to see mistakes and also to read the writing of others. One participant had moved to a nursing home where the care plans were electronic after having a lot of difficulties on a medical ward:

When I was at the nursing home it was all computer-based so that was a lot easier because you could type it, it had auto spell and it was all programmed up to be nursing led. (Jo, Adult Nurse, Nursing Home)

The use of template seemed to feature quite highly in most of the stories. Most participants had a set way that they structured documentation, either using previously validated examples or having developed a system that had worked previously for them. This also extended to academic writing. In certain areas, such as intensive care, the documentation helped to provide that structure.

Most participants discussed preferring to use verbal to written strategies when trying to get their point across to people, and this included to speaking to people face to face rather than the use of email.

8.5. Support from others

Everyone discussed support they got from colleagues in practice although they were selective as to who they asked, depending on previous experience. Support included checking of emails and notes or reminders about procedures and proofreading

I would always ask sort of senior colleagues, to proofread and tell me things. So, it wasn't until a little bit later in my career that I was very conscious about that. (Danni, Mental Health Specialist Nurse)

Several of the participants discussed how managers were supportive and allowed extra time, as much as reasonably possible, helping with organisational issues and allowing access to areas to reduce distractions. Managers had also proofread documentation and facilitated accommodations such as secretarial services, however, not all of the participants had disclosed to their managers citing the fact that it was not required as they were not accessing study or they have not needed to.

A summary of the themes and subthemes are shown visually in Fig. 1 using mind mapping software Inspiration, commonly given to nurses and student nurses who have dyslexia in their support packages.

9. Discussion

The nurses in this study identified that they had to be organised and spent a great deal of time in preparation for activities, although organisational skills are often identified as a problem for those who have dyslexia (Brunswick, 2012; Moody, 2009). Leather et al. (2011) identified adults who have dyslexia who had developed higher level executive functioning and metacognition reported higher levels of job satisfaction, self-efficacy and perceived personal success, although they did not achieve higher levels of pay or promotion.

Disguise and avoidance was another set of strategies that were identified by the nurses within the study and this was also identified by Brunswick (2012). There could be many reasons for this behaviour, not least the stigma associated with dyslexia (Evans, 2015) and other psychological and emotional effects (Armstrong and Humphrey, 2009; Macdonald, 2010). Whilst the strategies could have a personal protective effect (Armstrong and Humphrey, 2009) they also could have professional implications.

Disclosure was an issue identified within the literature review and within this study. The nurses who had developed compensatory strategies, self-confidence and achieved successfully in their nursing career were more likely to disclose. McLoughlin and Leather (2012) suggest that success at work depends on many of the issues including the person being aware of their skills, feeling supported and being valued for their skills and knowledge. Dyslexia can be seen as a hidden disability (Nalavany et al., 2015) and therefore it is possible for nurses not to disclose. This study identified that nurses can achieve very successful careers without either being aware of or disclosing their dyslexia. Disclosure poses the risk of a change in social identity (Riddell and Weedon, 2014) and for most of the nurses in the study this was not something that they were willing to chance until they had established themselves within the nursing team. The nurses were aware that there is still a stigma attached to the label of dyslexia, particularly in relation to safe clinical practice (Evans, 2014b).

As registered nurses, all of the participants had developed compensatory and coping strategies that had enabled them to achieve their qualification and to progress their careers. For them it was important that these strategies were recognised and for those who had developed them successfully to be able to use them. It is recognised that each person who has dyslexia is an individual (Day, 2013) and that a uniform approach to dyslexia support is not going to be effective (Busgeet, 2008). In the workplace, the manager is the key person to enable the nurse who has dyslexia to work effectively (McLoughlin and Leather, 2012). For most of the nurses, reasonable adjustments were negotiated

with their manager, but this was dependent on disclosure as previously discussed. Informal support was also accessed from colleagues which is in keeping with the survey by Morris and Turnbull (2007b). The majority of the research that has been conducted on experiences of dyslexia in health and social care environments has been with students (McPheat, 2014) who have to move placement and would not have the benefit of developing strong relationships within the team (Blakey, 2015). This study has continued to show that there is still a lack of understanding of dyslexia and that both healthcare managers and clinical colleagues need further training in dyslexia awareness.

The nurses within the study identified that there was a professional requirement to maintain service user safety. For the nurse this was demonstrated by narratives of taking extra time and care with drug administration and documentation. This supports previous studies with student nurses who identified that they spent longer and were more careful with drug administration (Child and Langford, 2011; Morris and Turnbull, 2006, 2007a; Ridley, 2011; White, 2007). It is of interest that most of the nurses were identified as having dyslexia before or during their nurse training, although two participants had been registered for many years when they were diagnosed and both were very aware of taking extra care both with drug administration and documentation. Errors in both of these areas of practice are a concern for all registered nurses, not just those who have dyslexia, due to the risk to patients (Balas et al., 2004).

Many of the nurses discussed how they used their memory to compensate for difficulties that they encountered. Working memory has been identified as a potential deficit in adults who have dyslexia (Callens et al., 2012), however visual memory has been identified as a potential compensatory mechanism (Bacon and Handley, 2014; Callens et al., 2012). Working memory has been found to be impaired by stress (Qin et al., 2009) and many of the nurses identified that the difficulties associated to dyslexia were worse when they were tired. For those nurses who had more senior roles, they were able to adjust their work to suit their needs; changing working hours to reduce tiredness, reducing distraction and seeking extra administrative assistance. Extra time and effort was required to ensure that standards of practice were maintained in accordance with the professional requirements (Nursing and Midwifery Council, 2015). Others sought out practice areas which were more sympathetic or more suited their requirements. This is in contrast to a survey by Morris and Turnbull (2007b) where the majority of nurses did not feel that their choice of work area had been influenced by their dyslexia, although this was a self-reported questionnaire with little evidence to support this belief or explanations as to why they answered the question in that way. In the current climate of a global shortage of registered nurses (Moloney et al., 2018), consideration should be given to supporting registered nurses who have dyslexia to use their compensatory strategies to prevent further loss to the profession.

10. Limitations

Data was collected from a small self-selecting sample therefore may not be representative of the experiences of all registered nurses who have dyslexia, as the way that dyslexia affects registered nurses is variable (Wajuhiyan and Naidoo, 2012). It must also be recognised many factors may influence the way that the registered nurses express their narrative, although this is in keeping with the interpretivist paradigm (Lincoln et al., 2013) in which this research was situated.

11. Conclusions

This study has continued to show that understanding of dyslexia is essential to ensure that support for registered nurses is available and appropriate. This will help to reduce stigma, increase the likelihood of disclosure and enable reasonable adjustments to be implemented. Registered nurses who have dyslexia within this study demonstrated a

strong commitment to patient safety and recognition of their professional requirements. The participants also demonstrated a range of compensatory strategies that were enhanced by a stable and supportive work environment that allowed effective implementation of these strategies. The study findings also illustrate that many of the difficulties associated with their dyslexia can be ameliorated once they have been able to develop and implement compensatory strategies in their practice environments.

Conflicts of interest

None.

Ethical approval

Ethical approval was received from:

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Appendix A. Supplementary data

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