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Exploring support strategies for improving nursing student retention

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Understanding student nurse's experiences and perceptions of support strategies used to reduce attrition and improve retention: A systematic review

Introduction

Student nurse attrition rates are a global issue and the need to understand retention strategies is paramount in addressing nursing shortages (Collard et al 2020). Attrition has been a recognised challenge for over fifty years, every student nurse lost equates to one less nurse joining the workforce (Merkley 2016). Attrition in nurse education is a complex phenomenon and current literature has identified a broad range of factors that impact on students leaving their programme of study (Hamshire et al 2019). Attrition figures vary globally alongside nursing programmes with the average rate of attrition in the UK at 25% (Health Education England (HEE) 2018). Beech et al (2019) highlight how data on attrition remains inadequate and emphasise the role of universities in being held accountable for investigating and addressing attrition causes.

There is an increasing body of literature that seeks to understand the phenomenon of retention, rather than attrition and links retention to support. Whilst this move has inspired further research, it remains unclear exactly what institutions should and could be doing to retain student nurses in their education (Boyd and McKendry 2012). In 2006, the Department of Health produced guidelines, requiring institutions to address attrition rates for student nurses, with further targets set in 2015 for HEE to halve student attrition rates by 2017. The National Health Service (NHS) long term plan (2019) has since set out ambitious changes for the future nursing workforce, to focus on reducing attrition rates and improving retention to increase the nursing vacancy rate to 5% by 2028.

There is limited research relating to specific support needs of nursing students. More than ever, Higher Education Institutes (HEI) are seeking more creative ways to improve retention and combat attrition (Mooring 2016). The literature reviewed has highlighted a need for multi-layered solutions to student retention in nursing education. With Williamson et al (2013) addressing the need to focus on improving student experience. Retention programmes that are woven within the curriculum and fully embraced by students and academic staff are essential (Mooring 2016). The student's lifecycle through higher education needs to be considered when addressing strategies to improve their experience (Hamshire et al 2019). Smith-Walcholz et al (2019) stressed the need for continued research into the implementation of effective support interventions. With an overall focus on the development and evaluation of strategies.

The development of theoretical models and conceptual frameworks exploring problems of attrition and retention began in the 1970's, when attempts to conceptualise retention strategies became more common (Aljohani 2016). Most noticeably was Tinto's Institutional Departure model (1973), which through the years has been reviewed and adapted. Tinto's model (1993) consists of two systems; academic and social, with students needing to be integrated into both to persist in their academic institutions (Figure 1). Another key concept of Tinto's model is commitment; both the institution's commitment to the student and students' commitment to the course (Atif et al 2013). The model suggests that student retention is evidence of a successful relationship between a student and institution, and attrition is therefore the result of a failed relationship (HEE 2018). Tinto's model is repeatedly used within retention literature and can offer a structure for examining retention (Urwin et al 2010). The model has also been examined and tested extensively over the years, giving the model increased validity and credibility (Aljohani 2016). This model has been used to help gain an understanding, as to how identified support strategies can contribute to a student's institutional experience both in the academic and social system.
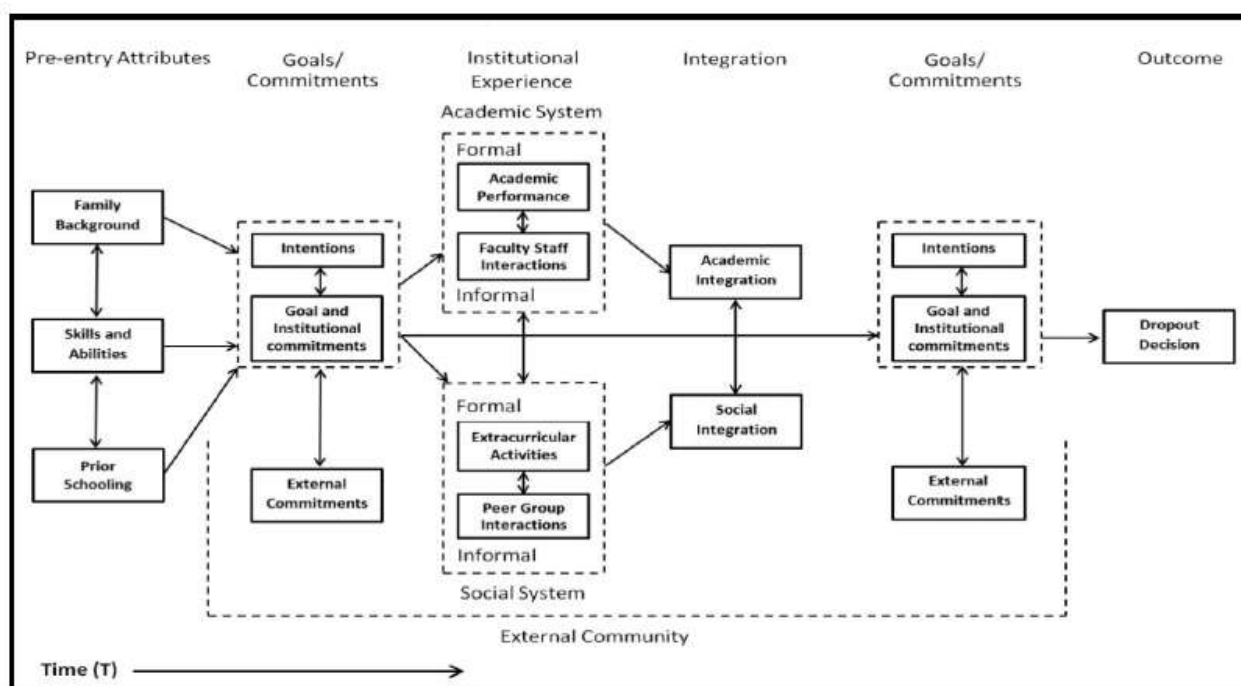
Figure 1. Tinto's Institutional Departure model (1993) copied from Aljohani (2016)
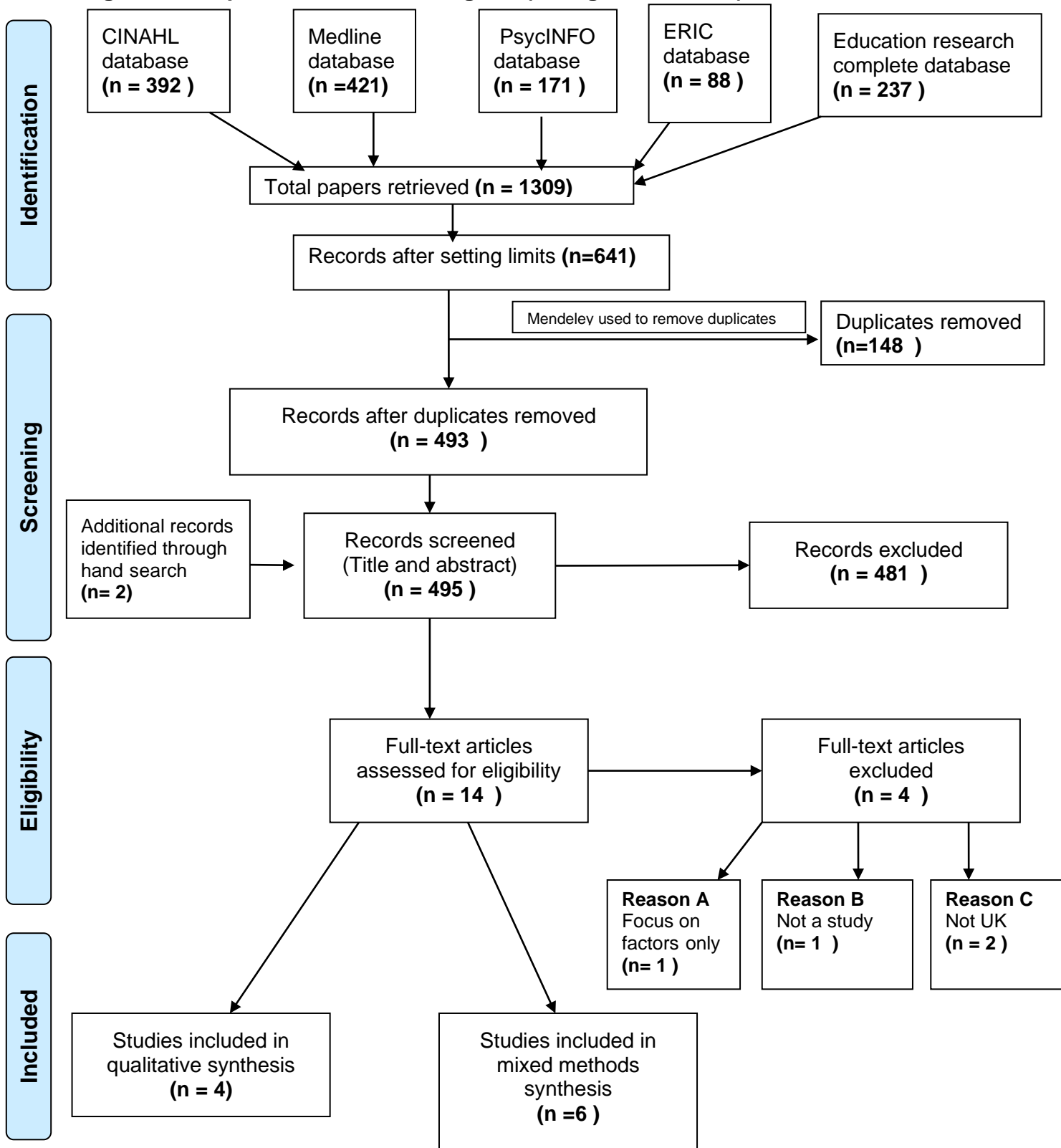
Aim

The aim of this systematic review was to establish what student nurses' experiences and perceptions are of support strategies and interventions. The research question that led this systematic review was: What are undergraduate student nurses experience and perceptions of support strategies used in UK HEI's to reduce attrition and improve retention?.

Methods

The research was conducted by means of a systematic review. The review was checked against relevant criteria from the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2009 checklist (Moher et al 2009). For this systematic review an adapted version of the PRISMA flow diagram was used for transparency of the literature search process presented in figure 2 (Vu-Ngoc et al 2018).

Figure 2. Adapted PRISMA flow diagram (Vu-Ngoc et al 2018)

Identification

| CINAHL database (n = 392) | Medline database (n =421) | PsycINFO database (n = 171) | ERIC database (n = 88) | Education research complete database (n = 237) |

Total papers retrieved **(n = 1309)**

Records after setting limits **(n=641)**

Mendeley used to remove duplicates → Duplicates removed **(n=148)**

Records after duplicates removed **(n = 493)**

Screening

Additional records identified through hand search **(n= 2)** → Records screened (Title and abstract) **(n = 495)** → Records excluded **(n = 481)**

Eligibility

Full-text articles assessed for eligibility **(n = 14)** → Full-text articles excluded **(n = 4)**

Reason A Focus on factors only **(n= 1)**

Reason B Not a study **(n= 1)**

Reason C Not UK **(n = 2)**

Included

Studies included in qualitative synthesis **(n = 4)**

Studies included in mixed methods synthesis **(n =6)**

4

Inclusion and exclusion criteria

This review focused on undergraduate nursing students, from all fields of nursing. Of interest were any support strategies or interventions that assisted students throughout their programme of education and addressed retention and/or attrition as a key factor. Only primary research papers written in English and published between 2010 – up to June 2020 were included. Those studies excluded from the review were those that did not look at undergraduate nursing students, was not a UK study and did not mention attrition and/or retention. Any studies conducted pre 2010 were excluded as a considerable amount has changed in nurse education during this period, with the introduction of degree level only in 2013 and the new NMC standards (Willis 2012; NMC 2018).

Search strategy

Several scoping searches were completed between April-June 2020, following this, five databases were searched for relevant published primary studies: MEDLINE, ERIC, Education research complete, PsycINFO, CINHAL. The search strategy took place over two stages with a broader search of terms (Table 1) and a specific search focused on themes that were derived from the initial scoping review: academic support, peer mentoring/support, social support, support in practice. Grey literature was searched, including key government documents, Higher Education Academy projects and HEE documents (Thomas 2012; HEE 2018). Hand searching of these papers discovered no new primary studies on the research topic. Citation chaining was completed on all papers and searching through bibliographies found a further 2 papers with one paper being used within the review (Fergy et al 2011) and the other was discarded following full text review (Sabin et al 2012). In total 1309 papers were retrieved from the combined search strategies on the five databases.

Table 1: Broad search terms

P Population	"Undergraduate nursing student" OR "nursing student" OR "student nurse"		
	AND		
E Exposure	Support OR strateg* OR interventions	AND	Attrition OR retention OR "drop out" OR completion OR persistence
	AND		
O Outcome	Experience OR perception OR attitudes OR views		

Quality appraisal

The Mixed Methods Appraisal Tool (MMAT) (Hong et al 2018) was used to appraise the quality of the included studies. Table 2 presents MMAT of selected studies. All ten studies met the requirements of the first two screening questions. The four qualitative studies were appraised using section one, all qualitative studies were found to be of good quality. Whereas the mixed-methods studies were appraised using section one, section four and section five highlighted some poor methodological processes. Many of the studies lacked cohesion between the qualitative data and quantitative date presented with a lack of clarity on any divergences found. All studies were still included in the review as Hong et al (2018) highlight how excluding studies with low methodological quality is discouraged, and instead a detailed appraisal was included with the tool completed for each paper.

Category of study designs	Methodological quality criteria	Responses		
		Yes	No	Can't tell
Screening questions (for all types)	S1. Are there clear research questions?	10	0	0
	S2. Do the collected data allow to address the research questions?	10	0	0
1. Qualitative (n = 10)	1.1. Is the qualitative approach appropriate to answer the research question?	10	0	0
	1.2. Are the qualitative data collection methods adequate to address the research question?	10	0	0
	1.3. Are the findings adequately derived from the data?	10	0	0
	1.4. Is the interpretation of results sufficiently substantiated by data?	7	3	0
	1.5. Is there coherence between qualitative data sources, collection, analysis and interpretation?	8	2	0
2. Quantitative randomized controlled trials (n= 0)	2.1. Is randomization appropriately performed?	0	0	0
	2.2. Are the groups comparable at baseline?	0	0	0
	2.3. Are there complete outcome data?	0	0	0
	2.4. Are outcome assessors blinded to the intervention provided?	0	0	0
	2.5 Did the participants adhere to the assigned intervention?	0	0	0
3. Quantitative non-randomized (n= 0)	3.1. Are the participants representative of the target population?	0	0	0
	3.2. Are measurements appropriate regarding both the outcome and intervention (or exposure)?	0	0	0
	3.3. Are there complete outcome data?	0	0	0
	3.4. Are the confounders accounted for in the design and analysis?	0	0	0
	3.5. During the study period, is the intervention administered (or exposure occurred) as intended?	0	0	0
4. Quantitative descriptive (n= 6)	4.1. Is the sampling strategy relevant to address the research question?	5	1	0
	4.2. Is the sample representative of the target population?	6	0	0
	4.3. Are the measurements appropriate?	6	0	0
	4.4. Is the risk of nonresponse bias low?	4	2	0
	4.5. Is the statistical analysis appropriate to answer the research question?	6	0	0
5. Mixed methods (n = 6)	5.1. Is there an adequate rationale for using a mixed methods design to address the research question?	6	0	0
	5.2. Are the different components of the study effectively integrated to answer the research question?	3	3	0
	5.3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted?	3	3	0
	5.4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?	0	6	0
	5.5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?	4	2	0

Table 2. Appraisal of selected studies - Mixed Methods Appraisal tool MMAT, version 2018

Data extraction

Once all papers were quality appraised, data extraction was undertaken using an adapted template from Bettany-Saltikov and McSherry (2016) which was piloted and edited. Tinto's (1993) conceptual framework categories were used to consider the academic and social systems associated with the institutional experience. Data extraction was completed and reviewed, responses were then compared to ensure agreement and identify any discrepancies by both authors. Following data extraction, descriptive characteristics of the studies were presented in a data table.

Data analysis and synthesis

The six steps of thematic analysis (Braun and Clarke 2006) were followed to identify and explore key themes derived from the data extracted: familiarisation with data, coding, searching for themes, reviewing themes, defining and naming themes and writing up. Following coding of the papers, this was reviewed, and codes agreed by both authors. This informed the data synthesis, following the four steps of narrative synthesis laid out by Cochrane collaboration (Ryan 2013). The findings have been presented in narrative synthesis of the data extracted and themed. The process was iterative and was supported using Tinto's (1993) model, this enabled an understanding of any conceptual overlaps in the themes that were found.

Results

A wide range of support strategies and interventions were found, these are presented in table 2. The support strategies reviewed were categorised into Tinto's (1993) institutional experience of the academic system; academic performance and faculty staff interactions and/or the social system; extracurricular activities and peer group interactions. Following data analysis and the categorising of the studies during data extraction. Five themes were identified: building peer relationships, relationships with staff, student confidence and motivation, student connection with the institute and student persistence with studies.

Author/Year	Aims and objective research question	Study design	Support strategy or intervention	Alignment to Tinto's model
Banks et al (2012)	To explore nursing and midwifery student support needs and their experience of, and satisfaction with, the Pastoral Care Support Advisor service	Qualitative and quantitative methods	Pastoral Care Support Advisor (PSA) service	Academic system – Faculty staff interactions Social system – peer group interactions
Boath et al. (2016)	To evaluate how use of automated mobile texts, using a system known as FLO, could usefully supplement pastoral support, as an intervention to reduce attrition among undergraduate nursing students	Qualitative and quantitative methods	FLO texting system (supplement pastoral support)	Academic system – Faculty staff interactions
Christiansen and Bell (2010)	To reduce nursing attrition by maximising the peer support available to first years in the clinical setting and facilitate third years understanding of mentorship principles in preparation for professional practice	Interpretive Qualitative design	Peer learning partnerships in practice	Social system – peer group interactions
Currie et al (2014)	To explore the perceived impact of CAMMS on student support and attrition/retention in the 3 pilot sites from the perspective of academic, administrative staff and students	Qualitative and quantitative - responsive evaluation design	Computerised absence and monitoring system (CAMMS)	Academic system – Academic performance
Fergy et al (2011)	What is the impact of Academic, Personal and Professional Learning (APPL) on students academic and social integration in year 1	Descriptive case study using appreciative inquiry	Academic, Personal and Professional Learning (APPL) support mechanism	Academic system – Academic performance & faculty staff interactions Social system – peer group interactions
Gerrard and Billington (2014)	To explore the nursing students experiences and perceptions of belonging to an extra-curricular group within a pre-registration nursing course	Qualitative	Extra- curricular groups	Social system – Extracurricular activities Social system – peer group interactions
Gratix and Barrett (2017)	To explore students perceptions of academic supervision as a basis for work towards developing a robust academic supervision framework for undergraduate nursing students	Descriptive qualitative design	Academic supervision	Academic system – Academic performance & faculty staff interactions
Mckendry et al (2014)	To explore student motivations, experience and support requirements during their first year to determine the efficacy of institutional retention initiatives	Qualitative	Various support sources from academic staff to peers	Academic system – Academic performance & faculty staff interactions Social system – peer group interactions
Ooms et al (2013)	To measure the perceptions of students of the use and usefulness of the support mechanisms provided by their university	Mixed-methods approach	Various support sources from module leaders to student union	Academic system – Academic performance & faculty staff interactions
Ryan and Davies (2016)	To explore the sources of, and support needs of nursing and allied health students, develop and evaluate an interactive online tool: 'SignpOSt'	Four phase mixed-methods approach- Explore, analyse, develop and evaluate	SignpOSt (SOS) and interactive online tool for support services.	Academic system – Academic performance & faculty staff interactions Social system – peer group interactions

Table 2. Included Studies

Building peer relationships

Peer relationships through formal groups and friendships was found to be a key feature in a student's experience of the institution. Senior student nurses were seen as role models and a good source of emotional support (Christiansen and Bell 2010; Mckendry et al 2014). However, senior students were not only seen as a source of support. Fellow students were perceived as a valued source of support, accessed through social media (Ryan and Davies 2016). Small student support groups made through joining extracurricular and formal groups, facilitated by academic staff, were seen to; develop friendships, support networks, learning from other students and building confidence (Fergy et al 2011; Gerrard and Billington 2014). Seeking friendships was identified as a key source of support and continued motivation on a programme (Fergy et al 2011; Banks et al 2012). Learning from other students was seen as beneficial and a different experience to learning from academic staff. The studying that took place was perceived to enhance learning and allow for reflection together (Christiansen and Bell 2010; Fergy et al 2011).

Relationships with staff

The relationships built with staff throughout programmes was identified as a crucial source of support and essential for integration into the institution. Students identified the best attributes of those supporting them throughout the studies as approachable, supportive, helpful and knowledgeable (Fergy et al 2011; McKendry et al 2014). In contrast, Gratrix and Barrett (2017) found some academic staff were unapproachable and aggressive in response to students seeking support. This led to dysfunctional relationships, with students perceiving this to be linked to the mark they received for academic work. Improving communication between

student and academics is key. Ooms et al (2013) stated students wanted better communication from lecturers, including prompt responses to emails.

Communication issues led to the need for clarification of staff roles in supporting students. Gratrix and Barrett (2017) students were disappointed when they found out the supervisor was not marking their assessment and felt disadvantaged by this. Both Ooms et al (2013) and Ryan and Davies (2016) discovered that students often needed greater clarity of roles, as they often just went straight to programme lead for answers. This confirms the need for roles and responsibilities of staff to be clarified, so students are aware of where to seek appropriate and timely support.

Positive relationships with academic staff were seen to motivate and encourage students to succeed. McKendry et al (2014) reported that lecturers were seen as role models to students motivating them to succeed. Similarly, most students perceived their APPL facilitators wanted them to be successful on their course (Fergy et al 2011). The building of positive relationships was seen as key, and the quality of interaction depended on the development of this (McKendry et al 2014; Gratrix and Barrett 2017). The various key relationships were identified as personal tutors, academic development tutors, supervisors, mentors in practice and those involved with extra-curricular groups. Gerrard and Billington (2014) reported that students felt their relationship with their lecturers were stronger when being part of extracurricular group. Academic development tutors were seen to support students in gaining confidence in their ability (McKendry et al 2014). In addition, Christiansen and Bell (2010) found that relationships with mentors in practice were seen to help support peer relationships, by building bridges and bringing students together.

Student connection with the institution

A connection to the institution was experienced by students through various support strategies available to them. Feeling linked to universities and a sense of belonging was experienced by student nurses (Gerrard and Billington 2014; McKendry et al 2014; Boath et al 2016). This feeling of connection was seen to have a positive impact on students continued engagement with various support strategies. Boath et al (2016) discovered students felt using FLO had made them feel part of the university community. On the other hand, students also reported wanting more information, that was personalised and more interactive (Boath et al 2016). The continued need for better connections to the university when not on campus was highlighted by student nurses using the SignPOst tool (Ryan and Davies 2016).

In contrast, not all students felt the support strategy improved connection (Currie et al 2014). Some students felt irritated by the letters received from the institute for attendance through the computerised absence system. Understanding how the strategies can be used to encourage connection and belongingness is key. Gerrard and Billington (2014) describe how students felt a strong sense of worth and belongingness when being part of an extra-curricular group within the institution. Similarly, Ooms et al (2013) found that by being part of the smaller groups (L2L and APPL), students felt a sense of belonging and did not feel lonely.

Student confidence and motivation

Students' own confidence in their ability to succeed and motivation to continue was highlighted throughout the various studies. From peer support, to being part of extra-curricular groups, confidence was a recurring theme. Students felt encouraged and supported by their peers, which in turn increased their self-confidence and self-esteem (Christiansen and Bell 2010).

Similarly, Gerrard and Billington (2014) and Ooms et al (2013) found that being part of a group greatly improved students' self-confidence. This improved confidence led to continued motivation to succeed, with Gratrix and Barrett (2017) reporting that students felt supportive relationships with supervisors encouraged them to put more effort into their studies. Leading to students considering the profession they were entering, feeling it helped with professional integration and a sense of readiness for registration (Christiansen and Bell 2010; Fergy et al 2011). This in turn, allowed students to think more deeply about nursing and consider the benefits of support strategies for future roles (Gerrard and Billington; Fergy et al 2011).

Students increased confidence and motivation led them to seek support themselves and take control of their own needs. Banks et al (2012) reported that students preferred the benefit of being able to choose how they approached PSA for support. McKendry et al (2014) found students were able to seek out support if needed and spoke of passion for the profession when describing motivation to persist. Students recognised the benefits of some of the strategies by recommending to friends (Ryan and Davies 2016). In contrast, some students who received attendance letters in Currie et al's (2014) study, felt it did not influence their future behaviour and saw little benefit from the system. Thus, finding a balance between engagement with support and student recognition of the benefits to improve confidence and motivation is key.

Student persistence with studies

Students' persistence and continued attendance was identified through various support strategies. Students must want to persist, and this goes hand-in hand with required motivation needed to do so (Tinto 2017). Fergy et al (2011) and Boath et al (2016) identified improved numbers in retention of students. With Boath et al (2016) stating that FLO had a direct impact on student retention, with 6 students reporting it helped them to stay on the course. In addition,

Fergy et al (2011) found that attrition had been reduced by 2% since the implementation of the APPL sessions.

Students identified how the various support strategies improved attendance and encouraged them to stay on their course. Currie et al (2014) discovered that the use of a computerised absence system and subsequent receipt of a green letter encouraged students to continue with good attendance. Additionally, Currie et al (2014) found that those students who received a pink warning letter for poor attendance saw this as a welcome wakeup call that had a positive impact on subsequent attendance. Similarly, both Banks et al (2012) and Boath et al (2016) found that the support strategies contributed to students staying on the course. Gerrard and Billington (2014) study also highlighted that belonging to a group had an impact on retention. Fergy et al (2011) described how the majority of students reported that APPL groups contributed to their success in year one. The benefits of the various support strategies in encouraging persistence with studies has been highlighted but understanding the direct links with improved attrition rates and student retention is key.

Discussion

The findings have brought to light consistent themes from previous research to date on attrition and retention (Cameron et al 2011; Eick et al 2013; Chan et al 2019; Mitchell et al 2020). With the issues of understanding students' sense of belonging and self-efficacy being key to accepting how support strategies can empower students through their nurse education. There needs to be a move towards understanding why students chose to stay in their nurse education programmes.

Student self-efficacy and sense of belonging

Understanding how support strategies can help students to improve self-efficacy and improve their belief in their ability to succeed is key (Tinto 2017). According to a number of studies in the review, positive relationships with academic staff can encourage students to feel a sense of belonging within an institution, which can be achieved through the feeling of connection and efficient support. This notion was evident with some studies, addressing the importance of students need to succeed themselves (Christiansen and Bell 2010; Fergy et al 2011). Self-efficacy cannot be assumed, helping students to reshape their beliefs in succeeding through positive experiences with support strategies can influence their persistence in higher education. This has been successfully highlighted through building positive peer relationships to draw on and academic encouragement to succeed. As well as improving self-confidence though participation in various support strategy groups (Ooms et al 2013; Gerrard and Billington 2014). Those students who perceive themselves as belonging are more likely to engage and want to persist.

Tinto's model

This review has shown how Tinto's (1993) institutional departure model can be used to frame and understand student nurse retention. Urwin's (2010) previous literature review also recognised how the model can be particularly helpful to untangle the complexity of attrition and retention. Recognising how support strategies used in the studies align with Tinto's concept of integration, can help us to understand further how the external factors and commitments can impact on persistence. Whilst support strategies offered across HEI's vary across the UK, it is crucial to understand how we can support student nurses to persist.

Limitations

The review was limited by several factors. Key limitations were the lack of peer-reviewed research on the topic and lack of quality literature has limited a relevant and rigorous insight. Most notably the focus of papers found were within the academic setting and only one paper was discovered in the practice setting through searches. Only English language studies were used, which could have overlooked further studies and in turn potentially lead to bias. Data quality was acknowledged by some of the authors in the studies and highlighted as limiting the generalisability of findings (Banks et al 2012; Currie et al 2014; Ryan and Davies 2016). Namely the heterogeneity of the paper's samples, with most of the studies being small in size.

Implications for nursing practice and research

This review has highlighted the need for continued research into how best to support students to stay. These studies are before COVID-19 measures changed the outlook of HEI's, however some strategies are now even more important to understand. The way peer relationships are built is changing and knowing how best to support students to form these relationships is key. As well as student sense of belonging and connection to universities is transforming. HEI's and nurse programme leaders need to work collaboratively with students, academics and practice areas to make these changes.

Conclusion

Retention of student nurses across the UK continues to be a key concern. Various support strategies and interventions were found to be of benefit to student nurses' persistence within their nurse education programmes. With a sense of belonging, self-efficacy, building relationships with peers and academic staff identified as key contributors to encouraging students to stay. However, retaining student nurses is complex and requires interventions that

address the needs of a diverse student population. Having a more holistic and multi-faceted

approach to the retention of student nurses involves working collaboratively with students to

understand their needs. The findings from this review have been supported by previous

reviews that highlight the need for further research. Further longitudinal studies are needed to

review support strategies that are implemented in HEI's and practice. Focusing more on why

students stay and how we can support students to succeed, is part of the next steps in the

complexity of understanding student nurse attrition and retention.

References

Aljohani, O. (2016) A comprehensive review of the major studies and theoretical models of student retention in higher education, Higher Education Studies, 6 (2),1. DOI: 10.5539/hes.v6n2p1.

Atif, A., Richards, D. and Bilgin, A. (2013) A student retention model: empirical, theoretical and pragmatic considerations, in: RMIT University (Melbourne, Australia).

Banks, P., Kane, H., Rae, C. and Atkinson, J. (2012) Support for nursing and midwifery students: A special case? Nurse Education Today, 32 (3), 309-314. DOI: 10.1016/j.nedt.2011.02.010.

Beech, J., Bottery, S., Charlesworth, A., Evans, H., Gershlick, B., Hemmings, N., Imison, C., Kahtan, C., McKenna, H., Murray, R., Palmer, B. (2019) Closing the gap: key areas for action on the health and care workforce. Health Foundation The King's Fund The Nuffield Trust. Available: https://www.kingsfund.org.uk/sites/default/files/2019-03/closing-the-gap-health-care-workforce-full-report.pdf [Accessed: 03.03.2022]

Boath, E., Jinks, A., Thomas, N., Thompson, R., Evans, J., O'Connell, P. and Taylor, L. (2016) Don't go with the 'FLO' – a student mobile texting service to enhance nursing student retention, Nurse Education Today, 45, 80-86. DOI: 10.1016/j.nedt.2016.06.019.

Boyd, V. and Mckendry, S. (2012) Staying the course: Examining enablers and barriers to student success within undergraduate nursing programmes, European Journal for Research on the Education and Learning of Adults, 3 (1), 59-75. DOI: 10.3384/rela.2000-7426.rela0059.

Braun, V. and Clarke, V. (2006) Using thematic analysis in psychology. Qualitative research in psychology, 3 (2) pp 77-101. Available from: http://eprints.uwe.ac.uk/11735

Cameron, J., Roxburgh, M., Taylor, J. and Lauder, W. (2011) An integrative literature review of student retention in programmes of nursing and midwifery education: Why do students stay? Journal of Clinical Nursing, 20 (9-10), 1372-1382. DOI: 10.1111/j.1365-2702.2010.03336.x.

Chan, Z. C. Y., Cheng, W. Y., Fong, M. K., Fung, Y. S., Ki, Y. M., Li, Y. L., Wong, H. T., Wong, T. L. and Tsoi, W. F. (2019) Curriculum design and attrition among undergraduate nursing students: A systematic review, Nurse Education Today, 74, 41-53. DOI: 10.1016/j.nedt.2018.11.024.

Christiansen, A. and Bell, A. (2010) Peer learning partnerships: Exploring the experience of pre-registration nursing students, Journal of Clinical Nursing, 19 (5-6), 803-810. DOI: 10.1111/j.1365-2702.2009.02981.x.

Collard, S. S., Scammell, J. and Tee, S. (2020) Closing the gap on nurse retention: A scoping review of implications for undergraduate education, Nurse Education Today, 84, 104253. DOI: 10.1016/j.nedt.2019.104253.

Currie, K., McCallum, J., Murray, J., Scott, J., Strachan, E., Yates, L. and Wright, M. (2014) Developing a national computerised absence monitoring and management system to reduce nursing student attrition: Evaluation of staff and student perspectives, Nurse Education Today, 34 (5), 738-743. DOI: 10.1016/j.nedt.2013.08.006.

Department of Health (2006) Managing Attrition Rates for Student Nurses and Midwives: A Guide to Good Practice for Strategic Health Authorities and Higher Education Institutions. Department of Health, London.

Department of Health (2015). Delivering high quality, effective compassionate care: Developing the right people with the right skills and the right values. A mandate from the Government to Health Education England: April 2015-March 2016. Available: Delivering high quality, effective, compassionate care: developing the right people with the the right skills and the right values (publishing.service.gov.uk) [Accessed 20.03.2022]

Eick, S. A., Williamson, G. R. and Heath, V. (2012) A systematic review of placement-related attrition in nurse education, International Journal of Nursing Studies, 49 (10), 1299-1309. DOI: 10.1016/j.ijnurstu.2011.12.004

Fergy, S., Marks-Maran, D., Ooms, A., Shapcott, J. and Burke, L. (2011) Promoting social and academic integration into higher education by first-year student nurses: The APPL project, Journal of further and Higher Education, 35 (1), 107-130. Available from: http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ915366&site=ehost-live http://www.informaworld.com/openurl?genre=article&id=doi:10.1080/0309877X.2010.540318.

Gerrard, S. and Billington, J. (2014) The perceived benefits of belonging to an extracurricular group within a pre-registration nursing course, Nurse Education in Practice, 14 (3), 253-258. DOI: 10.1016/j.nepr.2013.11.002.

Gratrix, L. and Barrett, D. (2017) Desperately seeking consistency: Student nurses' experiences and expectations of academic supervision, Nurse Education Today, 48, 7-12. DOI: 10.1016/j.nedt.2016.09.005.

Hamshire, C., Jack, K., Forsyth, R., Langan, A. M. and Harris, W. E. (2019) The wicked problem of healthcare student attrition, Nursing Inquiry, 26 (3), e12294-n/a. DOI: 10.1111/nin.12294.

Health Education England (HEE) (2018) Reducing Pre-registration Attrition and Improving Retention (RePAIR) Report. Available: https://www.hee.nhs.uk/our-work/reducing-pre-registration-attrition-improving-retention [Accessed 20.03.2022]

Hong, Q. N., Fàbregues, S., Bartlett, G., Boardman, F., Cargo, M., Dagenais, P., Gagnon, M., Griffiths, F., Nicolau, B., O'Cathain, A., Rousseau, M., Vedel, I. and Pluye, P. (2018a) The mixed methods appraisal tool (MMAT) version 2018 for information professionals and researchers, Education for Information, 34 (4), 285-291. DOI: 10.3233/EFI-180221.

Mckendry, S., Wright, M. and Stevenson, K. (2014) Why here and why stay? students' voices on the retention strategies of a widening participation university, Nurse Education Today, 34 (5), pp. 872-877. DOI: 10.1016/j.nedt.2013.09.009.

Mendeley (2019) Available from: https://www.mendeley.com/ [Accessed 20/03/2022]

Merkley, B. R. (2016) Student nurse attrition: A half century of research, Journal of Nursing Education and Practice, 6 (3). DOI: 10.5430/jnep.v6n3p71.

Mitchell, K.M., Baxter, C.E., Gural, D.M., Chorney, M., Simmons-Swinden, M.L.Q., Nayak, N. (2020) Strategies for retention of nursing students: A scoping review. Nurse Education today, 50. https://doi.org/10.1016/j.nepr.2020.102956

Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). *Preferred Reporting Items for Systematic Reviews and Meta-Analyses:* The PRISMA Statement. Available: PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097[Accessed 20.3.22]

Mooring, Q. E. (2016) Recruitment, advising, and retention programs — challenges and solutions to the international problem of poor nursing student retention: A narrative literature review, *Nurse Education Today,* 40, pp. 204-208. DOI: 10.1016/j.nedt.2016.03.003.

NHS England (2019) The NHS long term plan Available: https://www.england.nhs.uk/long-term-plan/ [Accessed 03.03.2022]

Nursing and Midwifery council (2018) Standards framework for nursing and midwifery education. Available :https://www.nmc.org.uk/standards-for-education-and-training/standards-framework-for-nursing-and-midwifery-education/[Accessed 20.3.22]

Ooms, A., Fergy, S., Marks-Maran, D., Burke, L. and Sheehy, K. (2013) Providing learning support to nursing students: A study of two universities, Nurse Education in Practice*,* 13 (2), 89-95. DOI: 10.1016/j.nepr.2012.07.011.

Ryan, R. (2013) Cochrane Consumers and Communication review group. 'Cochrane Consumers and Communication review group:data synthesis and analysis.' http://cccrg.cochrane.org [Accessed 20.3.22]

Ryan, G. S. and Davies, F. (2016) Development and evaluation of an online, interactive information and advice tool for pre-registration nursing students, Nurse Education in Practice, 17, 214-222. DOI: 10.1016/j.nepr.2016.01.002.

Sabin, M., Taylor, R. and Tilley, C. (2012) Untangling a complex issue: An overview of initiatives to support nursing and midwifery student recruitment, selection and retention in Scottish universities, Nurse Education Today, 32 (4),469-474. DOI: 10.1016/j.nedt.2012.02.009.

Smith-Wacholz, H. C., Wetmore, J. P., Conway, C. and McCarley, M. (2019) Retention of nursing students: An integrative review, Nursing Education Perspectives, 40 (6), 328-332. DOI: 10.1097/01.NEP.0000000000000477.

Thomas, L. (2012) Building student engagement and belonging in Higher Education at a time of change: final report from the What Works? Student Retention & Success programme. HEFCE. Available: https://www.advance-he.ac.uk/knowledge-hub/building-student-engagement-and-belonging-higher-education-time-change-final-report [Accessed 3.3.22]

Tinto, V. (1975) "Dropouts from Higher Education: A Theoretical Synthesis of Recent Research," Review of Educational Research (45), 89-125. https://doi.org/10.3102/00346543045001089

Tinto, V. (1993) Leaving College, Rethinking the causes and Cures of student Attrition. University of Chicago Press, Chicago, IL.

Urwin, S., Stanley, R., Jones, M., Gallagher, A., Wainwright, P. and Perkins, A. (2010) Understanding student nurse attrition: Learning from the literature, Nurse Education Today, 30 (2), pp. 202-207. DOI: 10.1016/j.nedt.2009.07.014.

Vu-Ngoc H, Elawady SS, Mehyar GM, Abdelhamid AH, Mattar OM, et al. (2018) Quality of flow diagram in systematic review and/or meta-analysis. PLOS ONE 13(6): e0195955. https://doi.org/10.1371/journal.pone.019595

Willis (2012) Quality with compassion: the future of nursing education. Report of the Willis Commission on Nursing Education. Royal College of Nursing. Available: https://williscommission.org.uk/recommendations/ Accessed [03.03.2022]

Williamson, G. R., Health, V. and Proctor-Childs, T. (2013) Vocation, friendship and resilience: A study exploring nursing student and staff views on retention and attrition, The Open Nursing Journal, 7 (1), 149-156. DOI: 10.2174/1874434601307010149.