

Developing a web-based app for non-mental health nurses to assess children and young people with mental health problems

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There are no conflicts of interest to report.

ABSTRACT

Background: Recent research findings suggest there is high demand on specialist mental health services for Children and Young People (CYP) in the UK. Non-Mental Health Nurses are well placed to provide screening and assessments of CYP. Digital solutions have been recommended for Non-mental Health Nurses to make the most of early intervention opportunities and relieve pressure on CAMHS .

Aim: Develop a web-based app for Non-MH-Nurses to assess the needs and risks for CYP.

Methods: A systematic literature review, focus group consultations and interviews, and Qualtrics surveys of respondents who evaluated the app.

Results: The assessment app was conceptualized as a decision support tool for non-mental health nurses. An app known as the HAMHA: Huddersfield App for Mental Health Assessment was constructed and positively evaluated.

Conclusion: The HAMHA should provide increased confidence for Non-Mental Health Nurses when assessing and managing the mental health needs and risks for CYP.

INTRODUCTION

The mental health of Children and Young People (CYP) is a global concern, with significant evidence pointing to an increased level of mental distress in CYP in high-income countries (Fledderjohann et al., 2021; WHO, 2018; Collishaw, 2015). Anxiety, depression, and behavioural disorders are the most observed and increased mental health illnesses reported in CYP (WHO, 2021; Ghandour et al., 2019; Thapar et al., 2012; The Mental Health Taskforce, 2016).

Childhood and adolescence are the most vulnerable periods for developing mental distress that can persist for a lifetime (WHO, 2021). Mental health difficulties occurring before age 24 can impact on the whole lifespan, with negative effects on education and employment, and increased risks of substance abuse and violence (Fledderjohann et al., 2021; Kessler et al., 2005).

In the UK, 12.5% of CYP between the age group of 5-19 years have one mental disorder, and five percent have two or more (Public Health England (PHE), 2019; NHS Digital, 2018). The findings suggest an increase in mental disorder in CYP (5-15 years): 9.7% in 1999 to 10.1% in 2004 to 11.2% in 2017. In 2022, in England alone, 18% of children in the age group 7-16 years and 22% of young people aged 17- 24 years were reported to have a mental disorder (NHS Digital, 2022).

The NHS Long-Term Plan in the UK has signalled an increased investment in support for CYP with mental disorders (NHS, 2019). Every local health system will be expected to use some of this growing community health services investment to support specialist multidisciplinary service, crisis care, and early intervention services. This is at a time when the demand for referrals to Child and Adolescent Mental Health Services (CAMHS) doubled in England from 1857 in 2013 to 3872 referrals in 2019, greatly impacting on waiting times and caseload sizes (NHS Digital, 2020). An analysis of NHS Digital data, reveals that the number referred to CAMHS surged by 53% since 2019, reaching a total of more than 1.2 million in 2022 (Young Minds, 2023).

These findings illustrate the high demands and pressure placed on CAMHS and mental health nurses, compounded by the fact that only 12% (n=97485) of all registered nurses in the UK are specialist mental health nurses (Nursing and Midwifery Council, 2023). There is increasing recognition that non mental health practitioners can play an effective role in responding to the needs of CYP. A recent scoping review highlighted the importance of

early/pre-crisis interventions from non-mental health nurses (Sheffield Hallam University, 2020; Turner et al., 2022). It was found that non-mental health registered nurses such as school nurses, health visitors and emergency department nurses were well placed to deliver mental health screening and assessments of CYP. Accurate assessment and triage of mental health needs was found to reduce referral rates and lead to effective, stand-alone intervention. It was recommended that an evidence-based assessment app should be developed for non-mental health nurses to support the assessment of the needs and risks for children (Turner et al., 2022).

This paper reports on a project to develop a web-based application for non-mental health nurses (NMHNs) known as the *HAMHA, Huddersfield Assessment of Mental Health App*, designed to support NMHNs when assessing the mental health needs and risks for CYP.

METHOD

Design and Development of the app

The app was co-designed and developed with senior nursing representatives from England, Northern Ireland, Scotland, and Wales. The approach to the app construction and evaluation was based on the *Model for Improvement* (Moen et al. 2009) as a guide, which is widely used in healthcare service developments. This is an integrated approach with an emphasis on co-production drawing on clinical, operational, and technical knowledge and expertise, supported by those who are experts through lived experience.

The development was an iterative process and started with a literature review to identify common mental health disorders and the most effective tools used in mental health assessments of CYP. Interviews and Focus Group (FG) consultations were conducted with experts and non-mental health workers to identify the mental health needs and risks for CYP. The findings from the literature review, interviews and FG consultations were used to inform the construction and development of the app.

Interviews and Focus group (FG) Consultations

Six interviews and five FG consultations were conducted initially. The interviews and the first two FG consultations were conducted to inform the alpha prototype with an additional FG with CAMHS staff conducted. Two FG consultations (co-design) were conducted before finalising the Beta version. To support the initial discovery/co-design stage the research team

participated in a regional seminar with CYP to explore their views on the most important mental health needs and risks and digital access to mental health services.

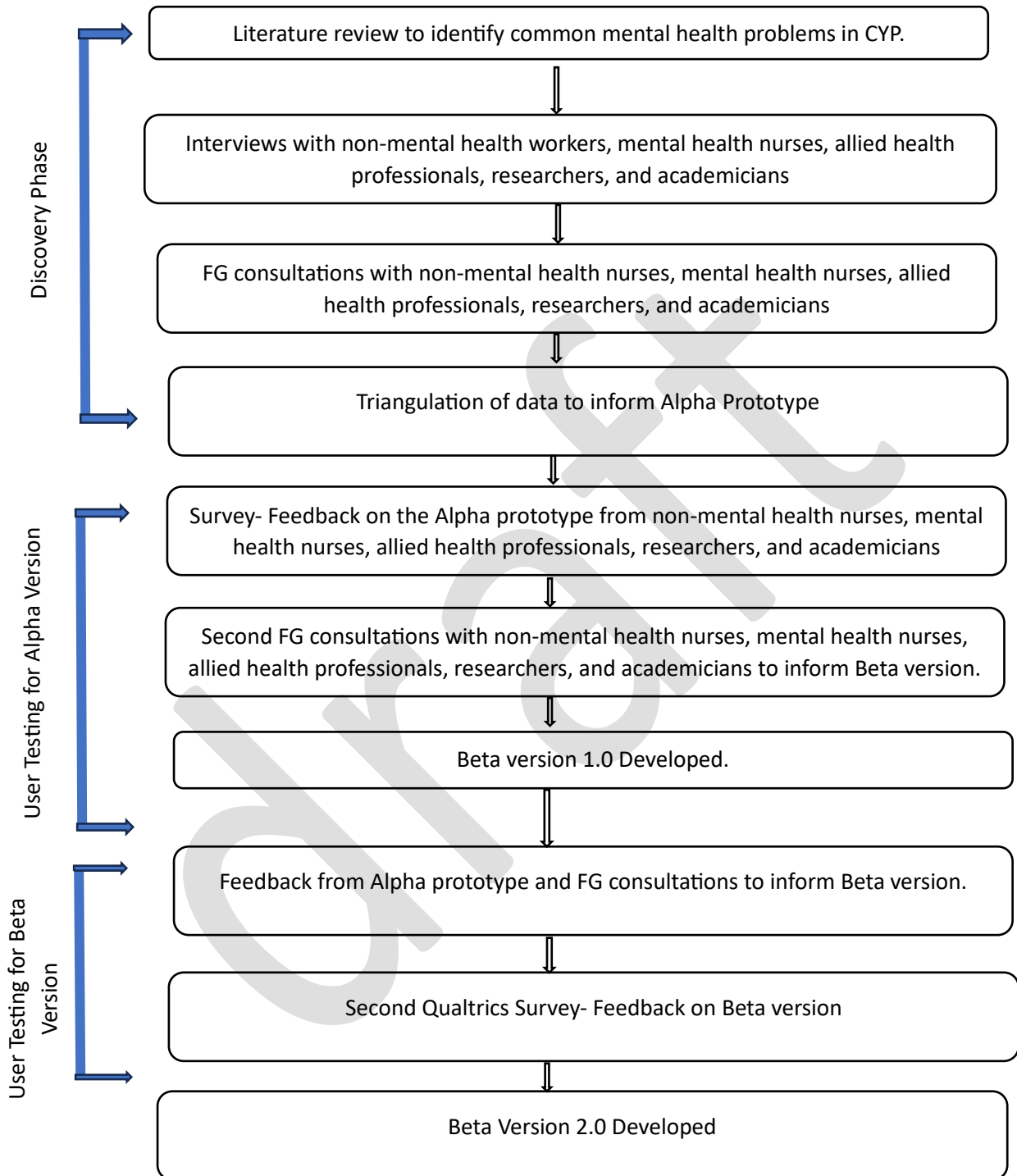
Survey

In addition, a Qualtrics survey based on the Mobile App Rating Scale (MARS: Stoyanov et al., 2015) was conducted to evaluate the quality, functionality, and app-specific items used to assess the impact of the app.

Recruitment

Participants for the interviews, survey and FG consultations were approached via steering group members and CAMHS. Non-mental health nurses and professionals working with CYP were invited to participate in the study. Participants were sent an invitation and information sheets. Interviews were conducted with the members of the steering group.

Figure 1 Development of the HAMHA



draft

Data Analysis:

For the survey, descriptive analysis was conducted using SPSS. The interviews and FG consultation transcript's themes were analysed. Thematic analysis was undertaken by

reading the transcripts at least twice, coding the data and identifying themes. The first researcher coded all the transcripts, then the second researcher checked the coding, and then preliminary codes were shared with the steering group. It progressed iteratively with continuous reflection and discussions. NVivo 20 was the data management software program used for the analysis.

Database Security and Storage

Data was stored on a secure University of Huddersfield server. Data were anonymised and coded and no personally identifiable information was shared.

Ethical Approval

Approval was obtained from the host NHS organisation SWYPT. The project also obtained ethical approval to proceed from UK partners and the School of Human and Health Sciences Ethics and Integrity Committee at the University of Huddersfield.

RESULTS

Literature review

A total of 255 articles were identified with tools for screening the mental health of CYP, and 33 articles were included after full-text review. Most frequently used tools for CYP were considered but none designed for non-mental health nurses and most still needed interpretation by mental health professional. Common problems identified in CYP included depression, anxiety, eating disorders, substance misuse, neurodevelopmental disorders, gender dysphoria, delusions and hallucinations.

Co-design of APP

The initial two focus groups and six interviews with key stakeholders found:

- Wide variation across regions and context
- Only a few reported using any tools to assess mental health of CYP
- Many relied on parental information
- Most knew of screening tools but lacked skills/experience to use them
- Some had used digital methods but nothing structured/specific to mental health
- All participated in decision-making in this area
- A definite need for the assessment app was identified to support decisions

The seminar conducted with CYP to explore their views found that depression, anxiety, anger, exam-related stress, bullying, cyberbullying and body image concerns were paramount.

The *Huddersfield App for Mental Health Assessment (HAMHA) Alpha* version was designed based on the results and recommendations from the literature review, focus groups, seminar and interviews. Based on the evidence the steering group conceptualised the app as,

“A decision support tool for non-mental health nurses to structure clinical judgements about CYP’s mental health needs and risks to enhance defensible decision making and match the needs of CYP with safe and effective interventions.”

The HAMHA screens and assesses mental health needs: anxiety, depression, eating disorder, substance misuse, neurodevelopmental disorder, delusions, hallucinations, gender dysphoria, and risks to self, others, and from others. The views of CYP and caregivers/parents on mental health needs, risks, and strengths/assets are captured. It uses a triage approach informed by the UK Mental Health Triage Scale (Sands et al., 2016) to plan and prioritise responses and interventions for CYP. The HAMHA also provides helplines, support information, and links to optional standardised screening tools for mental health problems.

User testing Alpha Prototype

The app feedback survey was shared across the UK with the help of the steering group. Respondents were recruited to test the app for functionality and usability. The participants working with CYP considered CYP between the ages of 13 to 18 years whom they had worked with recently. Considering these young people, we requested that users complete the app and the Qualtrics survey.

A total of 27 respondents participated in the survey: 12 (44.4%) from Northern Ireland, 11 (40.7%) from England, two (7.4%) from Wales, and two (7.4%) from Scotland. Most (n=20), 74% identified as nurses representing school nurses, specialist nurses, sisters, consultants and midwives. The others were academics, AHPs and clinical advisors. Most participants (n=11) belonged to 46 to 55 years with between 0-40 years’ experience.

All the respondents found the app's visual information, language and design appropriate for the content. Regarding the app’s functionality 74.1% (n=20) respondents found the app’s performance was perfect and timely with no technical bugs. The remaining seven respondents

felt it was primarily functional but had minor or negligible problems. All but one, 96.2% (n=26) felt the app was easy to learn. Only one respondent reported it being useable after some effort, while 63% (n=17) found navigation was perfect, logical, clear and intuitive and 33.3% (n=9) reported it was easy to use. Nearly all 92.5% (n=25) found the app's content was relevant or highly relevant. Respondents reported on the app's quality, where 88.8% (n=24) rated the app very good or excellent. Nearly all, 92.6% (n= 25) of the respondents felt the app was likely to increase awareness of needs and the risks for CYP. Similarly, 88.9% (n=24) agreed the app would increase intention and motivation to address CYP's mental health needs and risks. Overall, 92.5% (n=25) of the participants found the app was easy to use, and all respondents felt their current knowledge, experience and skills were adequate to complete the app. The average time reported by the participants for the completion of the app ranged from 5-20 minutes.

Themes identified from FG consultations (involving 13 nurse participants) and web-based feedback (Qualtrics survey) are presented in the table 1 below.

Table 1 **Thematic analysis of feedback on Alpha version**

Themes	Quotes from the participants
Useful things about the app	The targeted age group
	Easy to use with clear and focused information
	Links to the assessment tools
	Knowing when to escalate concerns
	Outline plan which is succinct and quick
	Focus on understanding the needs and risks of CYP.
	The logical process to follow with specific outcomes listed
	A conversation and assessment guide
	A good tool to guide practice and raise awareness
The fact that an app is available to help and guide CYP	
Least valuable things about the app	The app is too long.
	App-functionality sub-optimal
	No option for onward referral in a time-sensitive manner
Recommendations	Requires an overview regarding the app and its use
	Integrating the assessment and findings of this app into current medical records e.g., “SystemOne”
	More information on support groups and signposting
	Simplification of the app

User Testing Beta Prototype

The feedback received was used to develop the *Beta* version of HAMHA. The structure and the questions were rephrased, instruction on use was added, the plans and prioritisation section were updated, a word output from the assessment and prioritisation was designed, referral and helplines sections were updated., and prompts on different questions, and definitions and symptoms of each mental health condition were revised.

Again, participants were asked to test the functionality of the HAMHA app and provide feedback using the Qualtrics survey and FG consultations were also conducted to evaluate the Beta version. A total of 34 participants responded to the survey, where 23 (67.6%) were from England, five from Northern Ireland, five from Scotland and one from Wales. Nearly half 14 (41.1%) of the participants were frontline CYP’s nurses from the community, schools, epilepsy services, forensic, A&E, learning disability and family services. The others included nursing academics, researchers, managers, paediatrics consultants, social workers, mental health workers, clinical advisors, and youth consultants.

Over three quarters, 76.5% (n=26/33) of the participants reported that the prioritisation and planning section of the app helped them plan their actions accordingly. Others felt they needed more information on local services to plan their actions. Regarding the impact of the app on knowledge, attitude and intentions, 82.3% (n=28/34) of the participants agreed that the

app would increase awareness of the importance of addressing CYP’s mental health needs and risks. Similarly, 67.7% (n=23/34) agreed it increased knowledge and understanding, and 82.4% (n=25/34) agreed it informed judgement and aided decision-making. The themes identified from the final two FG consultations (involving eight nurses) on Beta1 and feedback from the survey are presented in the Table 2.

Table 2 Thematic analysis of feedback from focus groups on Beta 1

Themes	Quotes from the participants
Useful things about the app	Easy to use, can be used without specific training
	The comprehensive app, intuitive and straightforward
	Structured approach
	Support decision making
	Outline plan which is succinct and quick
	Guides conversation
	Plans and Prioritization section
	Links to organisations, self-help and support and management resources
	Screening tools
	Identifying underlying contexts
	The app can be used at schools, universities and home visits.
	Raising awareness of mental health support and resources available
	The report at the end and the risk assessment section
Good prompts for asking service users about mental health issues	
Least useful things about the app	It is time-consuming and quite wordy.
	The optional screening tool is lengthy.
	Some words, such as “unusual behaviour”, are subjective concepts and need clarification.
	It did not add any new knowledge for me.
	The need for the internet is not always an option for rural areas.
Recommendations	Making an online video to introduce the app and its use
	More information on local support lines
	More information on support groups available and signposting
	Integration of the app’s information on the existing client record

The issues identified by the participants using beta-version were addressed in the final version of the app “Beta 2.0”. An introductory section was added with guidance to use the app, and more prompts on each question on mental health conditions were added, along with clear definitions and symptoms.

DISCUSSION

Main findings

This study describes the findings from the construction of the HAMHA app. The HAMHA app was developed as a decision support tool for use by non-mental health nurses across the UK to help them make structured clinical decisions regarding the mental health needs of CYP. The findings suggest that most participants were optimistic about the mental health app and found the app to be intuitive and easy to use. Current knowledge, skills, and experience was felt to be adequate to navigate and use the app, but some asked for further training to develop their skills. The Beta2 version construction was informed by feedback on the previous Alpha and Beta1 versions.

The web-based HAMHA can aid nurses to make a defensible decision and match the needs of CYP with effective interventions for mental health needs. This addresses previous concerns where research found non-mental health nurses play a central role in recognising and helping CYP with mental health issues (Clausson et al., 2015; Lineberry & Ickes, 2015; Membride et al., 2015; White, 2018; Turner et al., 2022), but often feel unskilled and under-equipped to assess mental health (Haddad et al., 2010; Membride et al., 2015). All participants felt the HAMHA should be a useful addition to practice and most felt confident in their knowledge, skills and experience to complete. However, learning needs must be considered prior to using the HAMHA where limitations of expertise are acknowledged, and specific training resources provided and/or signposted.

To our knowledge, there is no specific web-based application designed for non-mental health nurses to support the mental health needs of CYP. There are apps to facilitate mental health assessments and support the mental health needs of CYP and they have shown potential to manage and improve the mental health of CYP (for example Leech et al., 2021; Stallard et al., 2018), but these are usually completed or overseen by mental health trained staff and/or require CYP or caregivers to complete. User-centred approaches have become more prominent while developing mental health web apps (Burn et al., 2022; Ospina-Pinillos et al., 2020; Ospina-Pinillos et al., 2019; Stallard et al., 2018; Callan et al., 2018; Cheng et al., 2018; Dekker et al., 2017). Consistent with this, our project included non-mental health nurses and allied health professionals working with CYP and explored the views of CYP to develop and design the app. This is like the approach taken to develop the “BlueIce” app for CYP, where product users worked together to develop the app and reported enhanced acceptability of the app due to the involvement of the end-users (Stallard et al., 2018). Similar approaches have been adopted in Australia and Colombia with young people, their carers and health professionals

designing and developing mental health apps (Ospina-Pinillos et al., 2020; Ospina-Pinillos et al., 2019).

Limitations

The HAMHA was developed following consultations with a relatively small number of expert nurses and others working with CYP. A more significant number of consultees would have been advantageous. D More direct involvement of CYP and caregivers would have been advantageous, and this is currently underway as HAMHA is validated in practice. This project used a realist quality improvement design, which meant details of respondents and controls on sampling were limited. However, the cohort who responded were experienced frontline staff and included academics and other disciplines involved in the care and treatment of CYP. Participants were recruited from all four countries in the UK with limited numbers from Wales and Scotland. However, the HAMHA was endorsed by Welsh and Scottish representatives on the project steering group. The Beta2 version still requires validation in clinical practice, which is currently underway and further research is required to investigate the reliability, validity and practical utility of the HAMHA.

CONCLUSION

The HAMHA, a web-based decision support tool, was co-developed and constructed for use by non-mental health nurses to assess and prioritise the mental health needs and risks for CYP. The HAMHA app was informed by triangulating the data from literature review, interviews and consultations with key stakeholders. The HAMHA Beta2 version is now ready for validation in clinical practice, and this is currently underway in England, and planned for other services and countries in the UK. Future practice-based research will investigate inter-rater reliability, concurrent and convergent validity with similar apps. The validity of the HAMHA to inform and predict outcomes for CYP will also be evaluated to support algorithmic and artificial intelligence options. The HAMHA has the potential to be used in any non-mental health setting by those working in these areas so evaluation in different contexts will also be explored.

Recommendations:

- Conduct practice-based evaluation in services for CYP subject to organisational governance frameworks.
- Develop HAMHA webpage for hosting, sharing and evaluation of Beta2 version.
- Encourage further research and quality improvement initiatives.
- Set up system and procedure to allow clinical services to use HAMHA subject to respective users' organisational governance arrangements.
- Review functionality and practical utility for other health and social care staff (AHPS, youth workers, prison staff).
- Consider further research projects to investigate predictive validity referral pathway and clinical outcomes.
- Explore education and training packages to support student nurses and newly qualified nurses using the app.

Implications for practice:

- HAMHA will aid non-mental health nurses and allied professionals working with CYP to make an informed decision regarding CYP's mental health and emotional well-being.
- More defensible decision making by non-mental health trained staff.
- Minimise inappropriate CAMHS referrals, reduce workload and waiting times.
- Improve inter-disciplinary and multi-agency communication of clinical needs and risks.
- Highlight the mental health learning needs of staff and facilitate learning.
- Improve safety, effectiveness and accessibility of interventions for CYP with mental health needs and risks.

Acknowledgement:

We want to thank the steering group guiding this research project. We thank all the participants who took part in informing and co-designing the app and we thank the Royal College of Nursing Foundation for funding the project

Authors contribution:

MD conceived the study design and wrote the protocol for this research project. MD, MS, HW, SS, WK, and BPS were responsible for the development of study materials and recruitment. MS and MD collected and analysed data. MD and MS wrote the first draft of this paper. All authors reviewed and provided feedback on the draft manuscript and contributed to finalising the paper.

Conflict of Interest:

There are no conflicts of interest.

References

- Abbott, S., Bryar, R., Cohen, R., Gibbons, J., & Marks, L. (2019). Extending the mental health expertise of school nurses: Evaluating a training programme. *British Journal of School Nursing, 14*(9), 437-442.
- Bartlett, H. (2015). Can school nurses identify mental health needs early and provide effective advice and support? *British Journal of School Nursing, 10*(3), 126-134.
- Burn, A. M., Ford, T. J., Stochl, J., Jones, P. B., Perez, J., & Anderson, J. K. (2022). Developing a web-based app to assess mental health difficulties in secondary school pupils: qualitative user-centered design study. *JMIR Formative Research, 6*(1), e30565.
- Callan, J. A., Dunbar Jacob, J., Siegle, G. J., Dey, A., Thase, M. E., DeVito Dabbs, A., ... & Sereika, S. (2021). CBT MobileWork©: User-centered development and testing of a mobile mental health application for depression. *Cognitive Therapy and Research, 45*, 287-302.
- Cheng, V. W. S., Davenport, T. A., Johnson, D., Vella, K., Mitchell, J., & Hickie, I. B. (2018). An app that incorporates gamification, mini-games, and social connection to improve men's mental health and well-being (MindMax): participatory design process. *JMIR mental health, 5*(4), e11068.
- Clausson, E. K., Berg, A., & Janlöv, A. C. (2015). Challenges of documenting schoolchildren's psychosocial health: A qualitative study. *The Journal of School Nursing, 31*(3), 205-211.
- Collishaw, S. (2015). Annual research review: secular trends in child and adolescent mental health. *Journal of Child Psychology and Psychiatry, 56*(3), 370-393.

Dekker, M. R., & Williams, A. D. (2017). The use of user-centered participatory design in serious games for anxiety and depression. *Games for health journal*, 6(6), 327-333.

Fledderjohann, J., Erlam, J., Knowles, B., & Broadhurst, K. (2021). Mental health and care needs of British children and young people aged 6–17. *Children and Youth Services Review*, 126, 106033. B

Ghandour, R. M., Sherman, L. J., Vladutiu, C. J., Ali, M. M., Lynch, S. E., Bitsko, R. H., & Blumberg, S. J. (2019). Prevalence and treatment of depression, anxiety, and conduct problems in US children. *The Journal of pediatrics*, 206, 256-267.

Haddad, M., Butler, G. S., & Tylee, A. (2010). School nurses' involvement, attitudes and training needs for mental health work: a UK-wide cross-sectional study. *Journal of advanced nursing*, 66(11), 2471-2480.

Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of general psychiatry*, 62(6), 593-602.

Leech, T., Dorstyn, D., Taylor, A., & Li, W. (2021). Mental health apps for adolescents and young adults: A systematic review of randomised controlled trials. *Children and Youth Services Review*, 127, 106073.

Lineberry, M. J., & Ickes, M. J. (2015). The role and impact of nurses in American elementary schools: A systematic review of the research. *The Journal of School Nursing*, 31(1), 22-33.

McGinnity, Á., Meltzer, H., Ford, T., & Goodman, R. (2005). *Mental health of children and young people in Great Britain, 2004* (Vol. 175). H. Green (Ed.). Basingstoke: Palgrave macmillan.

Membride, H., McFadyen, J., & Atkinson, J. (2015). The challenge of meeting children's mental health needs. *British Journal of School Nursing*, 10(1), 19-25.

Moen, R., Nolan, K., Nolan, T. Norman, G. (2009). *The Improvement Guide: A Practical Approach to Enhancing Organizational Performance* (2nd Edition) Langley, San Francisco, California, USA: Jossey-Bass Publishers.

NHS Digital. (2018). Mental health of children and Young People in England, 2017 (PAS). <https://digital.nhs.uk/data-and-information/publications/statistical/mental-health-of-children-and-young-people-in-england/2017/2017>

NHS Digital. (2022). Mental health of Children and Young People in England 2022- wave 3 follow up to the 2017 survey. <https://digital.nhs.uk/data-and-information/publications/statistical/mental-health-of-children-and-young-people-in-england/2022-follow-up-to-the-2017-survey>

NHS. (2019). The NHS Long Term Plan- Overview and Summary. <https://www.longtermplan.nhs.uk/wp-content/uploads/2019/08/nhs-long-term-plan-version-1.2.pdf>

NIHR. (2021). NIHR Evidence- Experience of Experience of children and young people cared for in mental health, learning disability and autism inpatient settings. https://doi.org/10.3310/themedreview_46186

Nursing and Midwifery Council (2023). [Data reports - The Nursing and Midwifery Council \(nmc.org.uk\)](https://www.nmc.org.uk). Last accessed 24th August 2023.

Ospina-Pinillos, L., Davenport, T. A., Navarro-Mancilla, A. A., Cheng, V. W. S., Cardozo Alarcón, A. C., Rangel, A. M., ... & Hickie, I. B. (2020). Involving end users in adapting a Spanish version of a web-based mental health clinic for young people in Colombia: exploratory study using participatory design methodologies. *JMIR Mental Health*, 7(2), e15914.

Ospina-Pinillos, L., Davenport, T., Mendoza Diaz, A., Navarro-Mancilla, A., Scott, E. M., & Hickie, I. B. (2019). Using participatory design methodologies to co-design and culturally adapt the Spanish version of the mental health eClinic: qualitative study. *Journal of medical Internet research*, 21(8), e14127.

Public Health England. (2018). Guidance 5. Children and Young people. <https://www.gov.uk/government/publications/better-mental-health-jsna-toolkit/5-children-and-young-people#fn:1>

Sheffield Hallam University (2020). Nursing-led Interventions to support the psychological and emotional wellbeing of children and young people: A scoping review. RCN Foundation.

Stallard, P., Porter, J., & Grist, R. (2018). A smartphone app (BlueIce) for young people who self-harm: open phase 1 pre-post-trial. *JMIR mHealth and uHealth*, 6(1), e8917.

Thapar, A., Collishaw, S., Pine, D. S., & Thapar, A. K. (2012). Depression in adolescence. *The lancet*, 379(9820), 1056-1067.

The Mental Health Taskforce. (2016). The five-year forward view of mental health: a report from the independent mental health Taskforce to the NHS in England, 2016.

Turner, J., Cooper, L., Woodward, A., Painter, J., Day, P., Hazelby, G., ... & Moore, K. (2020). Nursing-led Interventions to support the psychological and emotional wellbeing of children and young people: A scoping review.

White, S. (2018). School nursing's potential to have an impact on the prevention agenda and mental health outcomes: A position statement. *British Journal of School Nursing*, 13(10), 514-515.

World Health Organization. (2021). Mental Health of Adolescents. https://www.who.int/news-room/fact-sheets/detail/adolescent-mental-health/?gclid=Cj0KCQjwgNanBhDUARIsAAelcAuhGTg_1ChFBIWfGikIcIU4B6916Q3-DyUn7mTFKenRS9EAHnLb71oaAgLbEALw_wcB

World Health Organization. (2018). Situation of child and adolescent health in Europe.

Young Minds. (2023). Yearly referrals to young people's mental health services have risen by 53% since 2019. <https://www.youngminds.org.uk/about-us/media-centre/press-releases/yearly-referrals-to-young-people-s-mental-health-services-have-risen-by-53-since-2019/>