Rapid review ASD 26 Aug

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Occupational therapy interventions for Autistic Spectrum Disorders – a Rapid Review

ABSTRACT

Introduction: This rapid review aimed to synthesise evidence for occupational therapy intervention in the management of autism spectrum disorders. The review forms part of a series of rapid reviews commissioned by the Occupational Therapy Association of South-Africa to help inform decision making as South-Africa prepares for a new health system.

Method: Level I and II research studies published from 2017 - 2022 were considered for inclusion. Electronic database searches were conducted on the Cochrane database. The identified records were screened in Rayyan according to inclusion and exclusion criteria. Quality assessment of the selected articles was done with the CASP appraisal tool. Data was extracted to a custom Microsoft Excel worksheet and analysed quantitatively by percentage/frequency and qualitatively by thematic analysis of statements.

Results: Thirty-eight records were selected. These included 30 systematic reviews and eight randomised controlled trials. Twelve intervention domains across four age groups were identified with sensory integration and social skills interventions most frequently examined. Interventions were delivered across various venues, including mediation and technology (e.g., telehealth) interventions. A number of different outcome measures were used.

Conclusion: There is evidence to support the effectiveness of occupational therapy interventions for ASD across the lifespan for twelve different domains.

Implications for practice

- Occupational Therapists are involved in the provision of therapy intervention across all age groups for people with ASD
- Intervention can successfully take place in a clinic setting, but also at home or through means of technology
- There are growing evidence for sensory integration therapy or techniques when considering functional outcomes when treating ASD
- There is a lack of Level I and II research in the form of randomised control trials and systematic reviews regarding ASD intervention in sub-Saharan Africa

Keywords

functional impairments, mediated intervention, occupational therapy treatment, policy support, sensory integration, social skill training

INTRODUCTION

This rapid review was performed as part of a series of reviews by an appointed task team, initiated by the Occupational Therapy Association of South Africa (OTASA). The aim of the rapid review project is to provide evidence for the role of occupational therapy intervention for specific conditions in preparation of moving towards a National Health Insurance (NHI) system in South Africa[1]. This review was guided by the autism standard operating protocol for occupational therapy as compiled by the OTASA standard protocol group [2].

The focus of this review is on autism spectrum disorders (ASD). ASD is a complex neurological disorder, characterized by impairments of reciprocal social interaction, verbal and non-verbal communication, as well as preference for repetitive stereotyped activities, behaviours and interests. To diagnose ASD, symptoms must be present before the age of three years, but last throughout the lifespan. ASD is described as level 1, 2 or 3 by severity of social communication impairments and repetitive restrictive patterns of behaviour and the level of severity depends on the level of support required [3,4].

The World Health Organization (WHO) reports a global prevalence of autism at 1% [5], while systematic reviews of global prevalence figures reflect a prevalence of between 0.6% [6] and 0.65 %[7].An updated systematic review [7] indicates an increased global prevalence of 0.03% from 2012[8], possibly due to increased awareness about the condition and earlier identification. Systematic and scoping reviews found no records of prevalence studies conducted in sub-Saharan Africa, including South Africa [9,10]. Considering the absence of prevalence data in South Africa, Pillay et al. performed a search of all the children with a primary or secondary diagnosis of ASD in schools in the Western Cape of South Africa, resulting in a broad rate of 0.08%[11].The lack of more extensive and comprehensive data complicates service delivery and intervention for ASD in South Africa[10]

Occupational therapists enable individuals and communities to participate in daily life activities through engagement in occupations relevant to them, or by modifying the occupation or environment[12]. De Schipper et al in their systematic review of the literature identified numerous categories on the International Classification of Functioning, Disability and Health (youth version) core sets for ASD when considering ability and disability in ASD[13], affirming the importance of occupational therapists within a larger intervention team[14]. The need for occupational therapy services for adults with ASD are less frequently reported on, however

includes involvement in the areas of sensory integration[15], vocational rehabilitation services[16], driving training [17] and social skills [18].

This study examines global evidence-based occupational therapy intervention for ASD across the lifespan to inform policy makers as we move towards a new NHI system in South Africa. Rapid reviews are used to inform health decision makers timely and cost effectively, while still maintaining methodological rigor [19,20]. Rapid reviews proved very valuable during the Covid-19 pandemic to inform the government, clinicians and patients about strategic evidence to make crucial decisions. These reviews take an average of five to twelve weeks to complete, however the aim during an emergency such as the Covid-19 pandemic was much shorter – seven to ten days [19,20].

METHODOLOGY

Scope and question

The OTASA rapid review task team consists of four occupational therapists with clinical and academic experience in the various fields of practice. The first author was the principal researcher for this review and was assisted by the other authors during all phases of the review. The review was steered by the methods guide for rapid reviews for Covid-19 medicine reviews[19] and a practical guide to rapid reviews by the World Health Organization[20]. The research question investigated was: What ASD-related evidence exist for occupational therapy across the human lifespan? The research population was defined as any person with ASD across the lifespan. "Intervention" included any form of treatment that involves occupational therapists as intervention/program developers, organisers, researchers or facilitators. Assessment methods were not included in this review.

Study designs

Only level I and II studies[1] were considered for the review and included systematic reviews and randomised controlled trials. Qualitative designs and other reviews such as scoping or literature reviews were not included.

Search approach

Searches were conducted online through use of the library at Stellenbosch University. Cochrane library and Medline were used as search engines; however, the Medline search was aborted due to no new records found when compared to the Cochrane search. The search string used was: "Autism *OR* Autism Spectrum Disorder *OR* ASD *AND* Occupational Therapy

[1] Level I studies include RCTs and systematic reviews of RCTs with or without meta-analysis. Level II include systematic reviews of a combination of RCT's and quasi-experimental studies with or without meta-analysis.

OR occupational therapist". Inclusion and exclusion criteria were applied as can be seen in Table I.

Table I Inclusion and exclusion criteria

Inclusion criteria	**Exclusion criteria**
Level 1 or 2 evidence	Level 3 + levels of evidence
Record is published in peer reviewed journal	Conference proceedings, reports, theses, etc.
Full text accessible	Only abstract accessible
Published between January 2017 and December 2022	Published prior to 2017
Published in English	Published in any other language than English

References were saved online in Mendeley [21], an online personalised reference database and referencing tool. All references were transferred to the webtool Rayyan.ai to assist with the screening process [22].

Study selection

Two researchers firstly screened the records on Rayyan by title and abstract, while a third researcher resolved any conflicts. The selected records underwent full text screening by the primary investigator, while a second researcher screened 20% of the full text articles. A third reviewer resolved any uncertainties.

Data extraction

A custom excel worksheet was designed to extract data under the following headings: authors; study title; study design; population (gender, age, geographical location, setting); intervention method; comparisons; outcomes. The headings "comments" and "statements" were added to allow for any important information to be recorded which was not covered under the previous headings.

Appraisal of study quality

The quality of studies was appraised using the Critical Appraisals Skills Program (CASP) Randomised Controlled Trial Standard Checklist or CASP checklist for systematic reviews[23]. Points for each question were awarded to obtain an informal score per record as follow: Yes = 1; Not clear = 0.5 and No = 0.

Evidence analysis

Data was analysed by percentage and frequency predominantly for quantitative reporting. Additional information recorded under the statements/comments sections were grouped together through thematic analysis. Statements were filtered by method of deduction and only statements that were not already represented quantitatively were selected for reporting.

RESULTS

Search results

From the Cochrane search, 2348 records were identified. After 43 duplicates were removed through the Rayyan screening tool, 2305 records were screened by title and abstract. The first screening eliminated 2050 records, while the full text version of eight records could not be accessed. This resulted in full text screening of 250 records. At this stage, the research team agreed to only include records of the past five years, rather than the past ten years due to sufficient records identified in a five-year timespan. Records from the previous five years were found to be well-represented in the systematic reviews of the most recent five years. The PRISMA diagram[24] (figure 1) illustrates the screening and selection process.

Study design and quality

The included records comprised thirty systematic reviews and eight RCTs. A full description of studies can be seen in Table II. All included studies were of acceptable quality with scores of above 7/10 for systematic reviews and above 8/11 for RCTs on the CASP. Systematic reviews reported studies over the timespan of 1967 to 2021.

From the records where study locations were reported, most studies were conducted in the United States of America (n = 6), Norther Europe (n = 5), Australia (n = 5) and Asia (Japan, China, Taiwan) (n = 4). Other countries of study reported are Canada (n = 2), Brazil (n=1), New-Zeeland (n = 1) and Egypt (n = 1).

Table II Records included in the review

Type	CASP rating	Focus	Outcomes
RCT	9,5	Kontakt® program for group social skills training. Control group = Interactive cooking program	Both groups made significant progress towards their personal meaningful social goals (p<001), but the KONTAKT® group made significantly more progress (p> 0.04) Outcome measures: Goal Attainment Scaling (GAS), Social Responsiveness Scale—Second Edition (SRS-2)Social Interaction Anxiety Scale (SIAS) Circumplex Scale of Interpersonal Efficacy (CSIE) Perth A-Loneliness Scale (PALs) Emotion Regulation and Social Skills Questionnaire (ERSSQ) Paediatric Quality of life Inventory TM, version 4.0 (PedsQL TM 4.0)subset of stimuli from the Mindreading Battery Experience Sampling Method (ESM) feedback survey
SR (38 records)	9	Interactive robots assisting in therapy	The use of robots in therapy can be effective
SR (13 records)	9,5	Effectiveness of parent-mediated intervention on the occupational	Communication, behaviour, play, adaptive functioning, and autism symptoms may be positively influenced by parent-mediated interventions.

		performance of children with ASD	
SR (24 records)	9	Post secondary students - ASD interventions	High rates of participant satisfaction, diverse participant responses.
SR (8 records)	9	Effectiveness of specific Sensory Integration (SI) techniques and environmental modifications to improve participation of children with SI difficulties	Strong evidence supported Qigong massage, moderate evidence supported sensory modifications to the dental care environment, and limited evidence supported weighted vests.
SR(9 records)	9	A review to inform practitioners on DIR floortime as a model of practice	Positive gains were found for socio-emotional development.
SR (17 records)	7	Explore movement-based interventions to improve motor skills for pre-school	Interventions showed potential for improving body structure, function and activity, but not significantly.

		children at risk (including ASD)	
SR and meta-analysis (17records)	9,5	Effectiveness of parent training on the child's ASD symptoms and parental stress	Small to moderate gains for three interventions i.e., DIR/Floortime, Pivotal Response and parent focused training
SR (26 records)	7	Four coaching components examined on caregiver-implemented feeding interventions for children under 36 months	All included studies emphasised caregiver's competence, most studies focussed on guided practice, but fewer than half on collaborative response and decision making and only a third on collaborative planning. Thus, not all four models represented in all the studies
RCT	8,5	Efficacy study of Surviving and Thriving in the Real World (STRW): group treatment for adolescents and - promotes attainment	The STRW group made significant gains, which was replicated by the waitlist group. Outcome measures: Vineland Adaptive Behaviour Scales,3rd Edition [Vineland-3) and GAS (Goal Attainment scale

		of daily living skills. Waitlist/control study	
SR (16 records)	8	Examines the impact of caregiver implemented interventions on the family unit, relationships and the relation to ASD	Benefits are reported for family relationships and functioning.
SR (39 records)	9	Examines literature on the support provided for children with ASD and other developmental disabilities when transitioning to kindergarten	The importance of collaboration and sufficient support provided to children, teachers and parents are highlighted.
SR (7 systematic reviews, 63 studies)	10	Overview of reviews to investigate ASD intervention for very young children	Interventions vary considerably, limited evidence to support intensive interventions, empirical evidence from RCT's for developmental behavioural interventions and naturalistic developmental behavioural interventions (NDBI)

SR (RCT's)	10	Aim to identify the evidence base for early intervention in ASD	High level of recent studies reflects heightened interest in early intervention for ASD. This study is the first to identify such a database.
SR and meta-analysis (29 records)	9	Examines the effect of physical activity interventions on children with ASD	Overall moderate effect (g = 0.62)Moderate to large effects measured for interventions targeting manipulative skills, locomotor skills, skill-related fitness, social functioning, and muscular strength and endurance.
SR (11 records)	9	Examines occupational therapy intervention for sleep	Evidence support OT involvement to aid sleep through sleep management programs, environmental intervention, assistive devices, activity participation and lifestyle involvement
SR (28 records)	10	Examines practices with evidence of positive effect for youth	Areas of possible OT involvement identified: academic/pre-academic skills, self-help/adaptive skills, challenging behaviour, cognitive development, joint attention, mental health, motor skills, play, self-determination, school readiness, vocational skills and social skills
RCT	8.5	Examines the effect of sensory integration therapy (SIT) on the	Significant greater gains were observed for the intervention group in all areas as measured with the Short Child Occupational Profile (SCOPE) including volition, habituation, communication and interaction

		occupational performance of children with ASD. Control group = no SIT	skills, process skills, motor skills, occupational performance and the total score of the child ($p < 0.001$.). The intervention group also showed significantly greater improvement on all but one area of the sensory profile (SP)
RCT	9	Examines the effect of the Ultimate guide to Play, Language and Friendship (PLF). Waitlist/control group. Control group = no intervention	A significant moderate effect was observed for pre to post intervention for the intervention group, which lasted for at least 3 months ($p<0.0001$).Outcome measures used: Test of playfulness (ToP), Home and Community Social Behaviour Scales (HCSBS), Parenting Relationship Questionnaire (PRQ), School Social Behaviour Scales (SSBS)
SR (20 records)	10	Examines the efficacy of OT interventions to improve play in children with ASD	There is moderate to strong evidence for specific strategies of modelling and imitating the child and mixed support for other strategies such as parent education, modified environment or play materials or videos. Overall, the review supports OT intervention to improve play in ASD
SR and meta-analysis (21 records)	10	Examines the effect and research quality of ASD parent-mediated	Meta-analysis indicated larger effect size in 5 domains when compared to previous studies. The domains are ASD symptoms, cognitive competence, language-

		interventions in mainland Chine, Hongkong and Taiwan	communication ability, social competence, and adaptive behaviours
SR (32 records)	10	Examines the effectiveness of supportive interventions for adults with ASD	Evidence suggests that effective intervention includes interview training, social skills training and protective employment
SR and meta-analyses(37 records)	9	Examines the impact of parent intervention on parental outcomes	Small, but significant outcomes were found on parenting confidence ($p<0.001$) and mental health ($p<0.002$)
SR (4 records)	9,5	Examines the effectiveness of OT intervention in coaching teachers and parents for assisting children with sensory integration problems	Positive outcomes for the children and parents were found to be achieved in a relatively short time
SR and meta-	10	Examines the evidence for clinical	Evidence demonstrates effectiveness of these interventions across a range of outcomes, so

analysis (33 records)		effectiveness of non-specialist ASD interventions for social, motor and communication difficulties	encouraging a task-shifting approach in low socio-economic areas
SR (129 records)	10	Aim of this review was to summarise the best available intervention methods for children with disabilities, including ASD	Evidence for 39 effective paediatric OT intervention methods were summarised, indicating that parents can make informed choices between different possible interventions
RCT	9,5	To determine the effect of Ayers SI on a group of Brazilian children with ASD	The experimental group scored significantly higher than the control group in the areas of self-care (p= 0.046), social function (p = .036), and parent-identified goal attainment (p < .001). Outcomes measured with the Paediatric Evaluation of Disability Inventory (PEDI) and individualised goal ratings.
SR (5 records)	9	Examines the effectiveness of cognitive and occupation-based	Evidence suggests that cognitive and occupation-based intervention have a positive effect on self-regulation for children with sensory integration difficulties

		interventions for children who have difficulties with sensory integration, including children with ASD	
RCT	8	Examines the effectiveness and cost-effectiveness of sensory integration therapy for children with ASD and sensory integration difficulties with regards to behaviour, function and quality of life. Control group = care as usual	No significant difference between the experimental and control group at 6 and 12 months. Significant changes occurred for carer-rated goal performance and satisfaction ($p<0.001$). Outcome measures used: Aberrant behaviour checklist, Vineland Adaptive Behaviour Scales, Autism Parenting Stress Index, EuroQol-5 Dimensions and Carer Quality of Life, Canadian Occupational Performance Measure, Sensory Processing Measure™, Client Service Receipt Inventory
SR (11 records)	9	Estimates the effectiveness of online peer mentorship programs on the participation	Online peer mentorship programs have a positive effect in providing support and facilitating social networking

		of children/adolescents in life situations	
SR (5 records)	10	Examines the efficacy of Ayers sensory integration in addressing function and participation as defined by the International Classification of Functioning (ICF)	Strong evidence exists for ASI intervention to improve individually generated functional and participation goals. Moderate evidence exists for impairment level reduction in ASD and reduction in need of care giver assistance.
SR (3 records)	10	Examines the effectiveness research for Ayers sensory integration for children with ASD	ASI can be seen as evidence-based practice for children with ASD according to the Council for exceptional children (CEC) standards
RCT	9,5	Examines the effectiveness of a workplace tool (Integrated Employment	There was a significant improvement in self-efficacy within the experimental group (P=0.016) but no significant difference between groups. Outcome measures used were the Employer Self-Efficacy Scale

		Success Tool - IEST to improve employers' self-efficacy towards employers with ASD	(ESES) and the Scale of Attitudes Toward Workers with Disabilities (SATWD)
SR (46 records)	7,5	Examines school-based interventions based at improving behaviour for children with ASD	There is evidence for function-based and non-function-based interventions for children with ASD with behaviour problems
RCT	10,5	Examines the effectiveness of the PEERS intervention for Chinese adolescents with ASD with waitlist/control group design	Significant improvement was observed in the experimental group from baseline to re-testing for social skills knowledge and social functioning . Outcome measures: Test of Adolescent Social Skills Knowledge (TASSK), Quality of Play Questionnaire (QPQ), Social Responsiveness Scale, Second Edition (SRS-2), Adaptive Behaviour Assessment System, Second Edition (ABAS-II) Adolescent Social Behaviour Scale (ASBS)
SR (42 records)	9	Examines how telehealth is used for intervention with individuals with	Telehealth is reported to be effective ASD intervention in improving caregiver knowledge, caregiver competence, and child participation , increasing

		neurodevelopmental disorders, including ASD	communication responses, and reducing problem behaviours
RCT	11	Examines the effectiveness of a driving training program intervention on the driving skills of people with ASD. Control group; usual driving classes	There was a significant improvement in both groups' driving skills, although no significant difference between the groups. Outcome measures: Cambridge Neuropsychological Test Automated Battery (CANTAB), Social responsiveness scale (2nd edition) SRS-2, Revised children's manifest anxiety scale (2nd edition) RCMAS-2, NASA TLX
SR and meta-analysis (51 records)	10	Examines the effectiveness of cognitive behavioural therapy interventions for children and adolescents with ASD	Evidence suggest that CBT can have a significant positive effect on children and teenagers with ASD with regards to social-emotional problems and symptoms of ASD

Population

Studies included in this review either focused on occupational therapy interventions for people with ASD and/or caregivers and/or employers of people with ASD. Ultimately, the aim of the occupational therapy interventions was always to improve the quality of life of the person with ASD. Ages were covered at a range from birth to late adulthood. Guided by the OTASA standards of practice for ASD document [2] studies were divided into age group categories of: early years (0- 3 years) (n = 19); childhood (3 – 12years) (n = 29); adolescents (15- 22years) (n = 25) and adulthood (23 years and up) (n = 10).

Interventions

Twelve different domains of occupational therapy intervention were identified. The sensory domain included any form of intervention aimed at sensory integration, modulation or stimulation, including Ayers sensory integration®, and was most frequently reported on (n = 12) together with the social skills domain (n = 12) which included specialised programs such as KONTAKT[26] and PEERS[59]. Further domains included behavioural (n = 9); educational (n = 9); mediated (n = 9); cognitive (n = 8); play/leisure (n = 8); activities of daily living (n = 7); technology (n = 4); motor skills (n = 3), sleep (n = 2) and work (n = 2) domains.

When considering age groups by domains (Table III), studies examining the work domain only covered the adolescent to adult age range, while motor skills were covered up to the adolescent age range. All other domains were studied over all age groups.

Intervention venue

The studies that reported venues included clinic or therapy environments, community centres, schools, tertiary institutions, places of work and home environments as study/intervention venues.

Outcome measures

A vast number of different and diverse outcome measures were reported in systematic reviews and RCT's. These included standardised assessments, questionnaires, checklists, surveys and rating scales. The specific outcome measures used for RCT's are reported in Table II.

Table III Domains of intervention by age groups

Domain	Early years <3	Child 3 – 12	Adolescents 13 - 22	Adults 23 +
Behaviour	8	8	7	3
Cognitive	7	7	6	1
Sensory	10	12	7	1
Motor Skills	3	3	3	0
ADL	6	5	7	1
Social	9	10	10	1
Sleep	1	1	1	1
Play/Leisure	6	8	5	1
Education	7	8	7	2
Work	0	0	2	2
Mediated	9	9	6	1
Technology	3	3	2	1
	69	74	63	15

Thematic analysis

Common themes were identified through thematic analysis and can be summarised as follow:

Studies reported on many specialised programs and techniques for ASD involving occupational therapists, for which supplementary specialised training is required [26,27,30,31,33,41,49,53,54,57,59,60]

However, a combination of approaches and techniques are often necessary to reach desired outcomes[50,60–62] and interventions involving technology, such as robots and telehealth, require multidisciplinary involvement[27,63].Caregiver/parent mediated intervention hold many benefits for individuals with ASD, the caregivers and cost-effective service delivery and evidence suggest that gain can occur within a relatively short time span, however more research is needed in this regard [28,36,44,45,47,48]. There is a lack of research on specific academic support for students with ASD [29].In general, more high-quality trials with participation-focused outcome measures are needed to support clinicians involved in the management of ASD [32]. Studies yielded many and diverse outcome measures and approaches, which complicates evidence comparison[38,39,58].

DISCUSSION

Research considering occupational therapy interventions for ASD is well represented in the literature over the past five years, including 30 systematic reviews. Good quality RCT's are less frequently represented, as also found in other systematic reviews [31,32]. Records included in this review are predominantly from high income countries, with no records from low-income countries and limited records from upper-middle-income countries [64] i.e., China[44,59] and Brazil[65]. South-Africa is classified as an upper-middle-income country and can thus most closely associate with these studies, however, no studies from South Africa or sub-Saharan Africa matched the criteria for this review.

Although records include interventions across the lifespan, occupational therapy intervention is most frequently described for children (3 – 12 years), followed by early years (0 – 3 years} and adolescents (13 – 22 years), and much less frequent for adults over 23 years of age. Novak et al listed 39 different effective interventions for children with a range of disabilities in their systematic review, concluding that parents have many choices when considering therapy intervention. While early intervention for ASD is essential [66], in their systematic review Lorenc et al reiterates the importance of more evidence-based research for interventions for adults with ASD, and specifically for adults without intellectual disabilities. Services are usually focussed on mental health, which can only be accessed if a problem develops, rather than having access to preventative services. Furthermore, studies focus on younger adults (below 40 years of age)[18]. Considering that ASD is a life-long condition, the focus on the provision of OT intervention for middle, adult and older adult age groups is an area that needs attention by researchers.

When considering ages by intervention, it makes sense that researchers give more consideration to sensory integration [30,41,49–51,53,54] and parent mediated intervention [28,33,44,45,47,67] in the younger years, while social skills interventions are mainly considered in the childhood and adolescent years [26,44,52,56,60]. Interventions related to work and driving are only considered in late-adolescent years and adult years [16,18] Nevertheless, twelve different intervention domains for ASD with occupational therapy involvement were identified in this review across the lifespan, which coincides with the large range of functional impairments that could occur with ASD [13]

In a systematic review of 406 clinical trials Provenzani et al identify the vast number of outcome measures used within ASD research as a barrier when comparing studies[68]. This was reflected in the current review, however, with twelve different domains of intervention, a variety of outcome measures is to be expected. Provenzani et al recommends greater consensus

regarding outcome measures in ASD research, this could be considered across the individual domains and age groups identified.

Access to occupational therapy interventions is described across a range of locations, indicating an openness to accessible intervention. A systematic review investigating non-specialist options for intervention found promising evidence for a task-shifting approach[47] where non-specialists are trained by specialists to deliver therapy interventions or programs[69]. Task-shifting has proved to be a valuable, yet, developing method of practice to use in sub-Saharan Africa over the past decade[70] and further research in this area, in support of ASD interventions are indicated. Mediated interventions, often co-occurring with the use of technology, brings intervention within homes and schools and involve families and/or teachers[63]. Specialised programs are often used and require post qualification training e.g., Kontakt®[71] or PEERS®[56,72] for social skills; DIR®/floortime[31] and Ayers sensory integration®[53].

Limitations

Only level I and II studies were included in this review, so limiting the inclusion of lower quality studies specific to sub-Saharan Africa and South Africa that may reveal area-specific interventions for ASD.

There is an overlap in academic and clinical practitioner input with regards to therapy intervention for ASD. Therapists and researchers are often not defined by role in research papers. This complicated the accuracy of the screening process and records might have been missed.

Ethics

Only articles from peer-reviewed journals were considered for the review and the quality and bias of selected records were tested using the CASP rating tool. Ethical clearance was not required as the study did not require primary data collection.

CONCLUSION AND RECOMMENDATIONS

Evidence from around the globe suggests that occupational therapy plays an integral part in the management of ASD across at least 12 domains and across all ages. ASD intervention is a specialised area for which post qualification training is required when considering specific programs and techniques; however, promising evidence also exists for mediation, use of technology and task-sharing approaches which makes intervention more accessible to all.

There is a gap in and need for ASD research within South Africa to establish reliable data and to determine current intervention processes, including occupational therapy involvement in

South Africa. Global evidence for occupational therapy interventions needs to be considered with caution against the unique challenges South Africa face with regards to diversities, socio-economics, rurality, co-morbidities and the current and proposed health systems.

Conflicts of Interest

The authors have no conflict of interest to declare.

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Data availability statement

Upon reasonable request from the first author.

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