

General Education Teachers Attitude towards the Inclusion of Children with Autism in Mainstream Schools - A Systematic Review based on Literature

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Abstract

Autism is a worldwide prevalent complex, lifelong neurological disorder that is characterized by impaired social and communication skills and stereotyped behaviour that affects all racial, ethnic and socioeconomic groups and this disruptive behaviour of children with Autism affect the process of inclusion in the mainstream schools. There is little documentation of teachers' attitude towards inclusion although available literature revealed that Teachers' attitudes towards inclusion have been recognised as a key predictor for successful inclusion of children with Autism in the mainstream schools. This systematic review was conducted with Preferred Reporting Items for Systematic reviews and Meta-Analysis (PRISMA) guidelines till 11 august 2018 regarding to address General Education Teachers Attitude towards Inclusion of Children with Autism in the Mainstream Schools. Evidence revealed that general education teachers had mixed attitude (positive and negative) towards inclusion because of prominent peculiar behaviour of children with Autism simultaneously it was reported that teachers had little knowledge about the general characteristics of Autism Spectrum Disorder due to lack of in-service teachers training, workshops and seminars. There is transpiring agreement that teachers felt difficulty to manage the regular classes along with children with Autism due to lack of facilities required by the general education teachers. In this context, further research is needed to cherish/equipped the teachers with the necessary proficient skills that are imperative for the fruitful execution of inclusive practices in the mainstream schools.

Key words

Teachers' Attitude, Mainstream Schools, Stereotyped behaviour, Inclusion.

Let us continue to strive together for a more Inclusive, Democratic, and Peaceful future for us all. (Fernando Henrique Cardoso 1931)

INTRODUCTION

The term Autism originates from the Greek word "autos" that means self and was officially propounded by the scientist named Kanner in 1943. Clinically, Autism is a complex, neurological lifelong developmental disorder that typically appears during the first three years of life. There is no identified cause of this disorder and no known means of preventing its onset (Newschaffer et al., 2006; Rao & Gagie, 2006; Huang & Wheeler, 2006). Autism is prevalent worldwide irrespective of religious, race, social status and economy (Perko & McLaughlin, 2002). Data released from The Centres for Disease Control and Prevention (CDC) in April 2014 placed the prevalence of autism in the U.S. at approximately 1 in 68 children and is diagnosed 4 times common in boys than girls although India is the second most populous country of the world. A large portion of the population of this country is below 20 years of age but still there is a paucity of information about the prevalence and incidence of autism and other developmental disorders. Parent reported data on the prevalence of Autism Spectrum Disorder among school age children (ages 6-17 years) indicated a significantly higher rate of 1 in 50 births in 2011-2012 compared to 1 in 86 births in 2007 (Blumberg et al., 2013). With this drastically, increasing number of school age children with Autism Spectrum Disorder reflects the need for inclusion of children with this complex behavioural disorder in the regular education classroom. The term inclusion postulates that children with Autism should be educated along with typically developing children in same environment instead of being separated in the special education classroom (Mesibov & Shea, 1996). The Education for All Handicapped Children Act adopted in 1975, renamed as the Individuals with Disabilities Education Act (IDEA, 1990) and again reauthorized as the Individuals with Disabilities Education Improvement Act of 2004 (IDEIA, 2004), mandated schools to provide a free and appropriate public education to all children with disabilities in the least restrictive environment to the maximum extent appropriate. Moreover, The Persons with Disability Act (1995) stated that whenever possible, children with disabilities including Autism should be educated in regular school settings. Research revealed many benefits of inclusion for children with Autism Spectrum Disorder especially positive social interactions and peer modelling (Von der Embse, Brown, & Fortain, 2011). However, inculcating children with Autism in the regular classroom must be a challenging issue as the core features of this developmental disorder is categorized in two domains with varying degree of severity from mild to severe namely social communication (problem in adapting behaviour to fit into various social contexts, poor eye contact and abnormal social expression) and behaviours and interest (unusual interests and stereotypical body movements) (American Psychiatric Association, 2013; Hall, 2012). Due to deficits in both the domains it is worthful to include the children with Autism in the regular classroom as it is an opportunity for social skills development by observing and modelling behaviour of typically developing children.

Need to evaluate the General Education Teachers Attitude towards the Inclusion of Children with Autism in Mainstream Schools

Given the simultaneous rise in the rates of children with Autism and the expectations for school based inclusion of children with disabilities, research targeting inclusive practices continues to be a priority. Evidence accumulating that an inclusive school environment can motivate all children to be aware of their capabilities and potentials (Farewall & Ainscow, 1999) and diminish obstacles that may be recognized as impediment to children's development (Ainscow, 1999). In this context, positive teachers attitudes are undoubtedly act as the crucial predictor for successfully implementing the inclusive school environment.

Hence, it was found essential for investigating the General Education Teacher's attitude and perceptions toward the Inclusion of children with Autism in the Mainstream Schools. This current systematic review is defined to summarize and report the teacher's attitude and perception towards the inclusion. We hope that this systematic review will avail relevant evidence to support and guide research based on attitude and perception of teachers towards inclusion of children with Autism in mainstream schools.

AIM

The aim of this systematic review is to find out the evidence regarding the Attitude of General Education Teachers towards Inclusion of Children with Autism in the Mainstream Schools.

Objectives

To conduct a systematic review examining or analyzing –

- To review the literature based on attitudes and perceptions of General Education Teachers towards the Inclusion of Children with Autism in the Mainstream Schools.
- To collect the literatures grounded on knowledge about the general characteristics of Autism among General Education Teachers.

MATERIALS AND METHODS

Eligibility criteria of the articles were done on the basis of the following criteria:

Search strategy method

This systematic review was conducted with the Preferred Reporting Items for Systematic reviews and Meta-Analysis (PRISMA) guidelines. A comprehensive screening was performed using following databases – Pub Med and Google scholar to locate pertinent literature published in English over the last 15 years. We further screened the published dissertations for other potentially relevant studies that may have been missed from the systematic database search. The search was completed till 11 August 2018. In the section, of General Education Teachers' attitude towards Inclusion, search term combinations included a population term (e.g., autism, autism spectrum disorder), attitude term included key words (perceptions and beliefs), general education teachers/regular education teachers and regular schools or mainstream schools. All relevant titles and abstracts were read to assess the eligibility based on inclusion criteria. After reading the full-texts, the researcher removed non relevant articles where potentially relevant articles were evaluated by the other authors to confirm eligibility. Initial search retrieved 5,426 articles over which 70 studies were selected manually. 20 articles were excluded because of duplication in the databases. 50 records were screened, and then out of that 10 abstracts were excluded as the studies were non-empirical and 11 full text articles were excluded due to special education teachers and conditions other than Autism. Researcher excluded books, non- English manuscripts, conference abstracts without full text and non- full text articles and no additional article was screened by bibliographies and reference list. Hence, 29 articles were screened which include 19 quantitative studies, 8 qualitative study and 2 mixed approaches were included. The documentation was very less on perception, attitude of general education teachers towards inclusion of children with Autism Spectrum Disorders in mainstream schools. Almost all studies were based on questionnaires commonly used tool was TATIS (Teachers Attitude toward Inclusion Scale) and interviews. Because of the small number of studies, all were included in the review.

Criteria for Inclusion and Exclusion

A) we set out the following inclusion criteria:

1. The study must be an empirical study on Autism Spectrum Disorder among humans and Autism Spectrum Disorder must be the main condition of the study.
2. Both Male and Female general education teachers of Elementary, Primary, Middle and High school.
3. Mainstream or Regular schools were taken as a part of the study.

B) We excluded studies:

1. The studies were not empirical and did not consider the Autism Spectrum Disorder as the main disorder of interest.
2. Special Education Teachers were not taken as a part of the study.
3. Special Education Schools/ NGOs/ institutes were not taken as a part of the study.

Data Extraction and Analysis:

One data extraction sheet was used to summarize the data in Microsoft Excel spreadsheet (version 2007) on the General Education Teachers Attitude towards Inclusion of Children with Autism Spectrum Disorder in the Mainstream Schools. These characteristics of interest included first author, year of publication, country, sample description, research design and key findings. A narrative synthesis was used to summarize the findings of eligible studies included in this systematic review.

Type of Participants:

- Children with Autism.
- General Education Teachers

Research settings

- Mainstream or Regular Schools

Outcomes:

The primary outcome is that General Education Teachers had blended attitude (favourable and unfavourable) towards Inclusion of children with Autism Spectrum Disorder in the mainstream schools.

Publication Time Scale:

Articles included in this systematic review from 2003 onwards.

A detailed explanation of the 29 studies is given in Table 1. The sample size ranged from 3-600 participants.

Table 1 A summary of empirical studies regarding General Education Teachers Attitude towards Inclusion of Children with Autism Spectrum Disorder in the Mainstream Schools.

First author	Year	Country	Research design	Sample description	Summary of results
Teachers Attitudes and perceptions towards inclusion					
Mohammad Nornadia Razali	2013	Malaysia	Phenomenological study	Sample comprised of 3 preschool teachers	Results addressed that General Education Teachers were not ready towards inclusion of children with Autism in the Mainstream Schools because they were not aware of the characteristics of Autism and the importance of inclusive education.
Walter Chung	2015	Pennsylvania	Survey study	Sample consisted a total of 234 General Education Teachers (Pre Kinder garden to grade 12).	Findings indicated that teachers perceived students with Autism Spectrum Disorder were more different from typically developing students and teachers are more likely abstain and less feasible with students with Autism.
Janelle Cambridge Johnson	2014	Bahamas	Phenomenological	Sample consisted of high school teachers (n=8) throughout the New Providence District in the Bahamas	Findings demonstrated that teachers usually had favourable attitudes towards inclusion. Although, lack of funding, administrative support and minimal opportunities for training development were perceived as dominating factors regarding negative teachers' attitude towards inclusion.

Chaffi	2017	Cameroon	Phenomenological study	Sample included 5 primary school teachers (n=15) of grade 1, 2, 3.	Through results it was spotted that teachers got difficulty to accept children with Autism Spectrum Disorder in regular schools due to deficits in communication, cognition and socialization.
Joanna Galaterou	2017	Greece	Survey study	Sample composed of (n=208) primary and secondary school teachers	Teachers revealed insignificant attitudes towards inclusion which were correlated with their age. Particularly, younger teachers showed more positive attitude than their older colleagues.
Traci- Ann Garrad	2018	Australia	Correlation study	Sample comprised of (n=107) primary school teachers.	As compared to previous studies, the recently published study reported highly positive attitude of teachers towards inclusion of children with Autism.
Jennifer M. Cassady	2011	United States	Descriptive study	Sample composed of (n=25) general education teachers.	Results suggested that teachers were more willing towards inclusion of children with Autism Spectrum Disorder in the Mainstream schools.
Okhakhume	2004	Nigeria	Survey study	Sample comprised of (n=147) regular education teachers.	Findings indicated that female teachers were more interested in dealing with children with Autism in the mainstream schools than male teachers also there were significant correlation between teachers attitude and knowledge towards inclusion.
Jennifer M. Oslon	2003	Menomonie	Survey study	Sample composed of (n=65) general education teachers.	Findings revealed Less favourable attitude of general education teachers towards inclusion due to poor social interaction of children with Autism.
Stephanie Elaine Wilkerson	2012	Louisville	Correlation study	Sample comprised a total of 1,327 regular education teachers of the 16 school districts.	Findings indicated that most of the regular education teachers showed overall corroborative attitudes. Simultaneously, teachers were agreed

					and willing to make classroom modifications to meet the needs of children with Autism in the regular classroom.
Laurne Byrne	2012	Sub urban	Online survey	Sample composed of 100 general education teachers from Kinder garden to 12.	Results revealed that General education teachers who had little amount of training showed more positive attitudes compared to teachers not reported such training.
Cherie Apers	2016	New Zealand	Phenomenological study	Sample composed of primary school teachers (n=5)	Results demonstrated that inclusion of students with Autism Spectrum Disorder in the regular classroom were entangled and this can be a favourable experience that benefits the student with Autism Spectrum Disorder, other students, the teachers themselves, the school and the wider community. Somewhere they felt difficulty for that they need support.
Faten Abdulhadi Alzaidi	2017	Saudi Arabia	Phenomenological study	Sample composed of (N=20) general education teachers	Studies revealed that majority of the teachers were benevolent and had encouraging attitude towards inclusion of children with Autism Spectrum Disorder. However, some of the obstacles (lack of training and time, teaching methods and school environment) were felt by the teachers towards inclusion of children with Autism Spectrum Disorder.
Myriam Mojica Martínez	2012	Mexico	Mixed approach	Sample comprised of (n=9) Mexican teachers (pre-schools, Primary and secondary).	Results demonstrated that majority of the Teachers' had affirmative attitudes towards inclusive education of children with Autism Spectrum Disorder. However, some of the teachers experienced stress due to lack of support.
Carmen Celestine Wiggins	2012	Lynchburg	Quantitative (casual- and comparative	A sample composed of	Findings concluded that experienced

			correlation study)	(n=173) high school teachers from 6 school districts located in a South Eastern Metropolitan area.	teachers embraced optimistic attitudes towards inclusion than those teachers who had not taught in inclusion classrooms.
Sabrina Denise Evans	2016	Michigan	phenomenological study	A sample consisted of Eight elementary and middle school teachers.	Majority of the teachers perceived difficulty towards inclusion of children with ASD due to outdated barriers.
Deborah B. Hayes	2014	North East Tennessee	Online survey	A sample comprised of (n=79) general education teachers from 8 elementary schools, one intermediate school, one middle school and one high school of the Johnson City School.	Findings revealed that general education teachers had negative perceptions towards inclusion due to communication issues, aggressive behaviour associated with Autism whereas positive perceptions were noticed in the presence of an ancillary attendant in the classroom to help children noticed with Autism.
Kimberly Seymour	2017	Pennsylvania	Ex post facto descriptive research design	A sample composed of (N=147) general education teachers taken from public elementary, middle and high school.	Findings revealed encouraging perceptions of teachers and reflect a pedagogical shift towards promoting inclusive practices for all students including Autism Spectrum Disorder.
Joanna Davis	2016	Pennsylvania	Descriptive study	15 elementary school general education teachers	Results revealed that teachers were interested to support inclusive practices and overall, viewed the positive experience.
Julie-Anne Samantha Roberts	2007	South Africa	Phenomenological study	A sample made up of (n=10) pre-primary and (n=1) primary school teachers.	Results suggested that teachers' perceptions were not positive to include the children with Autism in the mainstream schools due to their behavioural problems.
Eileen McKeating	2007	Pittsburgh	Retrospective study	A sample composed of (n=21) teachers from K.G. and first class.	Results addressed that teachers had positive perceptions towards inclusion of children with Autism Spectrum Disorder in mainstream schools.
Ghada Saleh Salhudai	2015	Saudi Arabia	Mixed approach	A total of (n=600) teachers were surveyed and (n=12) teachers were interviewed	Results based on survey indicated that teachers hold the positive attitudes towards inclusion

				from different elementary schools.	whereas during interview it was reported that teachers had unfavourable attitude towards inclusion.
Matthew Joel Segall	2008	Georgia	Survey study	Sample comprised of (n=10) elementary school teachers, (n=20) middle school teachers and (n=17) high school teachers.	Results showed that educators (N = 47) had positive attitudes towards inclusion. Nevertheless, educators revealed important misconceptions and lack of knowledge regarding ASD.
Kelley M. Stidham	2015	Ohio	Web-based survey	Sample composed of (n=108) PreK-12 grade general education Teachers.	Results showed general education teachers had somewhat appreciative perceptions in educating students with an Autism Spectrum Disorder in inclusive classroom. However, they were also willing to take some sort of training to properly understand about the general characteristics of Autism Spectrum Disorder.
Kimberly Showalter-Barnes	2008	Pennsylvania	Quasi-experimental study	Sample comprised of a total of (n=168) general education teachers were selected from 1 high School, 1 middle school and 3 elementary schools.	Indicated by the result, trained teachers had positive attitude towards inclusion of children with Autism Spectrum Disorder on the other hand, inexperienced teachers felt difficulty to deal with children with Autism Spectrum Disorder in the mainstream schools.
Evidence regarding Teachers knowledge about Autism					
Edward	2015	Tanzania	Phenomenological study	A sample composed of (n=16) teachers from three regular primary schools.	Findings of the study revealed that most of the primary school teachers had low knowledge about children with autism due to lack of in-service training and seminars.
Sheela upendra	2013	Pune	Descriptive study	Sample comprised of (N=30) pre-school teachers.	Findings of the study revealed that preschool teachers had considerably poor knowledge regarding autism.
Yingna liu	2016	China	Descriptive study	Sample comprised of a total of (n=471)	Study revealed that preschool teachers had

				preschool teachers.	lack of Knowledge of Autism Spectrum Disorder due to dearth of teacher training and instructions. However, willing and motivated attitude perceived by the teacher to gain the skills needed to maximize the educational experiences of children with ASD.
Mohammad Mustafa Arif	2013	Pakistan	Cross sectional descriptive study	Sample comprised of 170 primary school teachers (n=85) of public schools teachers and n=85 of private school teachers.	Study revealed that half of the teachers had knowledge regarding Autism while half of the teachers said that proper training is required to handle children with Autism.
Adil Ayub	2017	Pakistan	Cross- sectional survey	A sample composed of (N=73) primary school teachers.	Results indicated that teachers had inappropriate knowledge regarding Autism due to misconceptions about this complex behaviour disorder

Summary of Findings: This systematic review was conducted to find out the evidence regarding General Education Teachers Attitude towards Inclusion of Children with Autism Spectrum Disorder in the Mainstream Schools. As reported in Table 1, there were 29 empirical studies, and the study findings were too heterogeneous and allow meta-analysis for accuracy. This is the first systematic review which searching the evidence for the pertinent information on attitudes of general education teachers towards inclusion. Evidence to date summarised that (1-43) accompanied by increasing both the prevalence of autism spectrum disorder and the number of students receiving an educational diagnosis of autism, it is expected that these students included more often in the general education classroom as opposed to a special education classroom. Inclusion refers to the practice in which students with disabilities including Autism Spectrum Disorder are fully included in the general education classroom with typical developing children as much as possible, using the criteria of educating students in the least restrictive environment. Some literature suggested that the General education teachers generally reported favourable attitudes towards the practice of inclusive education for children with an Autism Spectrum Disorder, although these findings were mixed i.e. some of the general education teachers had negative attitude towards inclusion of children with Autism Spectrum Disorder in the mainstream schools due to poor facilities for in-service teachers included lack of training, workshops and seminars. Although some of the research indicated that experienced and trained were also had negative perceptions towards inclusion of children with Autism Spectrum Disorder because of the impoverished social skills and sudden behaviour outbursts among children with Autism Spectrum Disorder. Moreover, research indicated that research findings were erratic on whether or not inclusion of students with autism in the classroom produces positive outcomes. Thus, there is emerging consensus that almost all the participants of the study had limited or low knowledge about the general characteristics of children with Autism. Overall, current findings increasingly support that rigid and repetitive behaviour patterns, poor social interaction are the characteristics of this complex behaviour disorder besides this lack of prominent in-services teachers' facilities makes the management of the inclusion troublesome by the General Education Teachers. Summing up, the majority of study supported that teachers had mixed attitude (favourable and unfavourable) towards inclusion of children with Autism Spectrum Disorder.

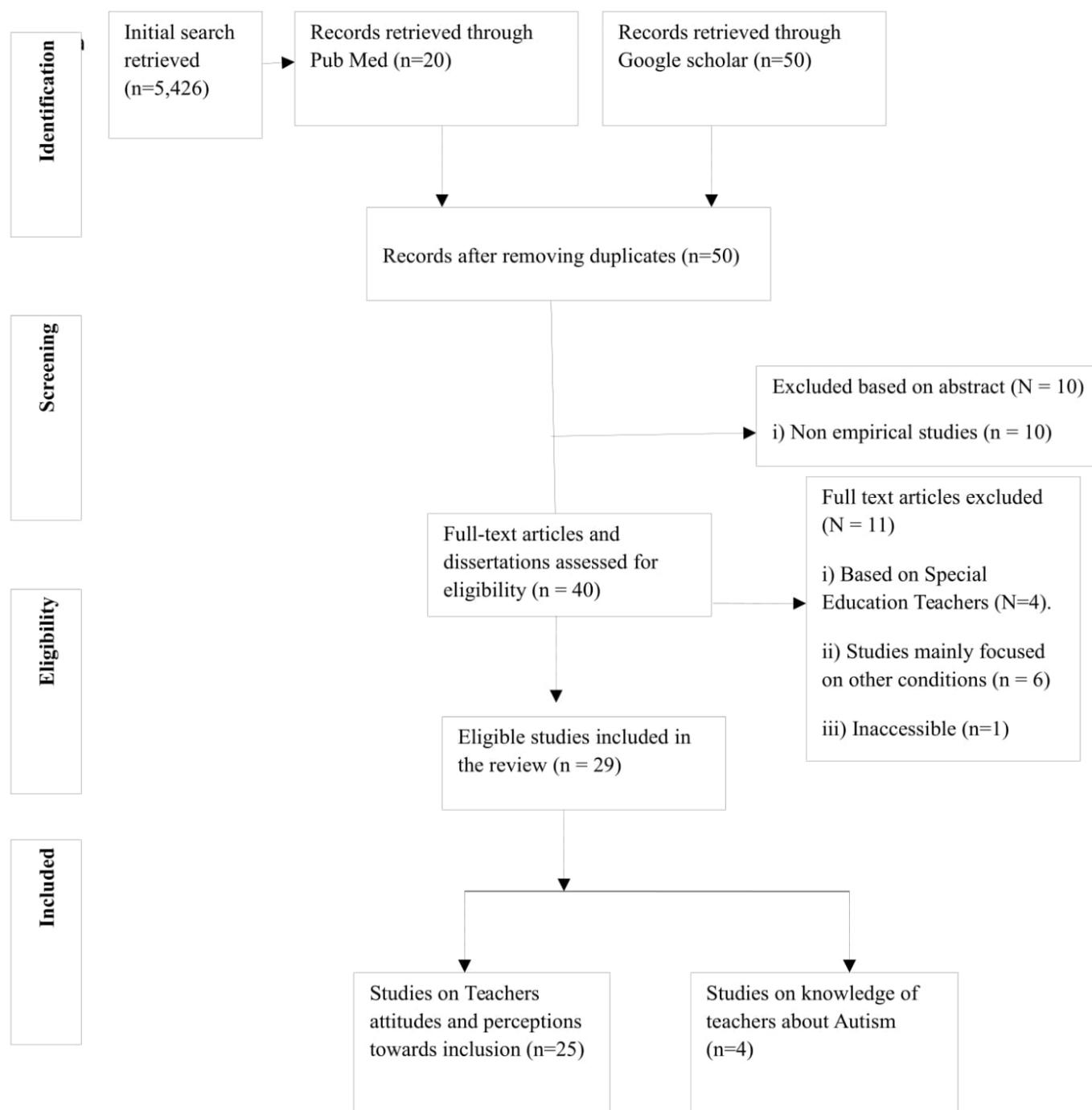


Figure1: A flow diagram of General Education Teachers Attitude towards Inclusion of Children Autism Spectrum Disorder in Mainstream Schools study selection for the systematic review.

Future Significance: The results extended in this review supports that though each child is unique and need to equip the general education teachers with knowledge regarding the complex characteristics of this behavioural disorder. Although one side it is formidable issue for the parents as well as general education teachers to include the children with Autism Spectrum Disorder in mainstream schools and another side many experts assert that inclusion is a civil right and is responsible for nurturing appropriate social development. Very few published articles evidenced teachers' attitudes, perception, knowledge regarding inclusion of children with Autism in mainstream schools. Therefore, further research is needed to evaluate the exact teachers attitudes towards inclusion of children with Autism in mainstream schools by using case study research design through close observation window and higher methodological qualities is needed to reduce the risk of bias. Researchers would then be able to identify the information that is most valuable for educators to know when dealing with children with Autism Spectrum Disorder in the mainstream schools.

Strength

- There is no previous systematic review on General Education Teachers Attitude towards Inclusion of Children with Autism Spectrum Disorder in the Mainstream Schools.
- A systematic search consistent with PRISMA (Preferred Reporting Items for Systematic reviews and Meta-Analysis) guidelines.

Limitations:

- This systematic review had a potential limitation that researcher excluded manuscripts of different languages except English and conference studies without full-text. Database search was limited.
- Search strategy was refined to address the General Education Teachers Attitude towards Inclusion of Children with Autism Spectrum Disorder in the Mainstream Schools.
- Meta-analysis will give more accuracy to findings.

Recommendations

Based on all 29 studies which included in this systematic review, General Education Teachers Attitude towards Inclusion of Children with Autism Spectrum Disorder in the Mainstream Schools. After analyzing these studies, some valuable points are found which are:

- Need to determine the factors that lead to accept the behavior of children with Autism in the least restrictive environment.
- Intervention studies must be planned to evaluate the teachers' attitude before and after the intervention in the form of training programme, seminars that explains the children with Autism behaviours and offers strategies to accommodate their needs in the classroom.
- Due to prevalent behavioural issues among children with Autism some motivational awareness programs should be conducted specially for shifting teachers' attitude from negative to positive. So that the children with Autism can be foster properly along with typically developing peers in the regular classroom.
- By providing teachers with effective strategies needed to work with children diagnosed with autism, social change can be realized, and children with Autism Spectrum Disorder can receive educational services possibly leading to a better quality of life.

Conclusion

Researcher have done electronic systematic search for and screened those studies that evaluated the General Education Teachers Attitude Towards Inclusion of Children with Autism Spectrum Disorder in the Mainstream Schools. Teacher attitude is a moderating variable that can influence the successful implementation of the inclusive classroom. Education of children with Autism Spectrum Disorder present challenges for educators and it appears to be an important issue due to impaired social skills and communication. However, the construct of attitude has not been operationally defined and there are no "gold standard" measures. From the evidenced it is perceived that general education teachers received little or no training, workshops to understand the nature of children with Autism due to this teacher's attitude sometimes unfavourable to include the children with Autism in the regular classroom. As the number of children with Autism continues to increase, teachers will need to understand how to address the different levels of student abilities in their classrooms to serve the needs of children with autism. Another important area worthy of future research is a critical examination of the teachers' attitude regarding inclusive practices, which has implications for child with Autism. Finally, it is fruitful for the General education teachers need to know how to plan, prepare, and present lessons for students with Autism Spectrum Disorder. As the number of children with autism continues to increase, schools must answer the challenge to educate students with autism placed in general education classes. The criteria for autism spectrum disorders has shifted over time, General educators need time to deepen their understanding, analyze students' work, and develop new instructional approaches for successful implementation of inclusive practices.

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