

How to Cite:

Manoj, M. P., George, A., & Mishra, N. (2022). Participation of young people with disability in social and leisure activities: A systematic review of factors and effects. *International Journal of Health Sciences*, 6(S1), 12323–12336. <https://doi.org/10.53730/ijhs.v6nS1.8079>

Participation of young people with disability in social and leisure activities: A systematic review of factors and effects

Manoj Mathew P

ICSSR – Post-Doctoral Fellow, Department of sociology and Population Studies, Bharathiar University, Coimbatore, Tamil Nadu, India

Annamma George

Principal, Love Dale Residential School, Thiruvananthapuram, Kerala, India

Nishtha Mishra

Research Scholar, Tata Institute of Social science, Mumbai, India

Abstract---‘Hapless’ is the word synonymous with the young disabled lives. It is chiefly because of their inability to perform certain basic life activities. However it isn’t necessary that they remain in low spirits throughout. A scallop of encouragement and ounces of kind motivating words can create wonders in their life of persistent hindrances. Persuading them to participate in various recreational and outdoor activities can also uplift their tenacity. This paper portrays a systematic review on the effects of various leisure activities, barriers and other factors affecting young people with disability. The quintessential information are taken from papers of online data bases and are classified accordingly into themes such as participation and requirement of the people with disability to take part in sports activity, physical, leisure activity and fewmore. Inclusion criteria advanced was advanced by collecting articles related to young people with disability participates various outdoor activities. The exclusion criteria were the papers focusing on people aged above 30 and disabilities related to a specific organ. Their participation benefits them both physically and mentally and can have an inevitable positive impact on their otherwise (assumably) boring and dull existence. An active involvement and coordination of parents, teachers, trainees, care takers and the society can help them to participate in various leisure activities and hence to lead a satisfied life.

Keywords---Disability, Young people, Leisure time Activities, India.

Introduction

Young People with Disabilities (YPWD) face many challenges while in the process of achieving their basic needs and attaining a successful life. Their lives are often excessively subjected to hardships and are often denied a 'normal life' which are easily available to their abled counterparts. However it is an untold stipulation that they need to experience and require the same necessities as that of the abled ones (United Nations 2014). The bitter truth is that the young disabled mass face more of restrictions and receive very less of opportunities to improvise their lives and pursue their dreams. Innumerable glaring factors influence their behavior/quality of life such as age, attitude of society/people which further results in accessing limited education/facility/transportation and restriction to participate in outdoor activities. Researches prove that a steady, recurrent support from the society and greater awareness amongst the public regarding the needs of disabled one might help in planning and regulating schemes to improve their life style. The people with disability are at a higher risk of having lower enthusiasm and lack of adjustment concerning their psychological behavior (Clark and Hirst(2007)).

When compared to the other age groups, the adolescents with disability are excessively restrained from accessing services without permission/guidance from family or care takers as they are limited from taking their own decisions (Moore et al. 2008). Adolescence is a period wherein there naturally occurs a limitation in fundamental, economic as well as in social aspects such as education, money, social participation and care/support for the disabled people. YPWD are at a higher risk of acquiring a negative impact on life and even in being victimized due to their limitations. An active involvement in outdoor activities help them in rejuvenating their physical and mental stature (Manus et al. 2008). So it is important to revamp their self-esteem, confidence and thereby improvise their health, finding their area of interests, which progressively result in their psychological growth, to participate in social activities, and to build social relationships with enjoyment (Simpkins et al. 2005). Letting an individual freely chose activities suiting their capabilities and interests plays a prominent role in exploring and enhancing their social, communicative, physical and mental potential which helps further in their growth as an individual (King et al. 2003). Outdoor activities are essential for improving ones physical fitness, flexibility, coordination, reducing stress and depression to provide them a quality life. The type of activity chosen by the disabled people depends upon their own interests, accessibility, language and support from family and their janitors (Anaby et al. 2013). Most people are not aware of the influence of outdoor activities in physical and mental behavior of the disabled people. Institutions, leisure/physical activity service centers and other social service providing centers are mostly impassable to those with disability since most of them consider that only the abled ones fit into it. Due to the lack of special learning techniques, limitations in accessing the services, lack of awareness, limitation in travelling scenarios, restrictions from family members, age and inability in finding special trainers that the disabled stumble in their process of participating in outdoor activities. Moreover, YPWD usually get avoided by the society as their natural mind set is to consider them inessential of happiness and pleasure. It is necessary to identify the factors, impediments and the effects of the outdoor activity on

YPWD by conducting adequate investigation on the challenges and issues faced by them and finding suitable solutions/suggestions to improve their quality of life. This paper illustrates a critical survey on benefits of participation and the factors influencing the YPWD in social/community/outdoor activities, and its limitations.

Methods

The systematic review paper utilizes mixed methods like qualitative and quantitative method (Harden. 2010; Joanna Briggs Institute. 2014). This review article analyzes both the methods in the collected papers from the database and does not restrict to either qualitative or quantitative method.

Search Strategy

A comprehensive search was performed in online data bases like PubMed, Medline, Springer, Elsevier and Google scholar to collect qualitative and quantitative peer reviewed papers with the following criteria's:

1. Studies related to people with physical/mental disability.
2. Studies related to the benefit of participating in social/community/outdoor activity by the disabled ones.
3. Studies related to the facilitation and the hindrances to participate in various recreational and outdoor activities of disabled people.
4. Studies related to the effect of environment and other factors influencing the participation in social/community/outdoor activity.
5. Papers/articles/thesis only in English.
6. Studies that use research method/technique or social validation to analyze the data.

Data Extraction

Data extracted from the collected papers consist the following tracts:

1. Includes the article related to the participation of YPWD or children (childhood factors are also considered) in social/community/outdoor/recreational activities.
2. The papers indicates the limitations, enablers and research related to the study.
3. Excludes the article focused on people with disability aged above 30.
4. Excludes the article focused on people with mental disability.

Data Analysis

The extracted data is well categorized into different themes like those related to sports activity, physical activity, leisure activity and the remaining factors are banded into other activity theme. Authors analyzed and reviewed the themes in terms of factors affecting the benefits of participation in various activity, barriers related to their participation, objectives, suggestions, and comments from the study, further research proposed in each study, its limitations and category (age, disability type and region) of people considered in each study.

Results

Background

Social/community/outdoor participation/activity is essential for one's personal and physical development. Participation is defined as "involvement in life's situation" and is an essential aspect of life (WHO, 2001). The participation of YPWD is more restricted as those compared to normal ones which sequels their life more complicated and are at higher risk of having reduced activity and fitness. The restriction lying within our society to which the people are often blindfolded or seem to be unbothered (Anaby et al. 2013).

Through active participation YPWD can comprehend the amendments happening in the society, learn to communicate and build social relationships, develop skills and competitiveness that helps to achieve success in their life (Larson and Verma, 1999; King et al. 2003). Involving in physical activity improves their physical health (King et al. 2003) by enhancing the controlled movement of large muscles by increasing flexibility and strength of the cardiovascular system, musculoskeletal system, which thereby reduces the obesity and improves the fitness (Canadian Parks and Recreation Association, 2001; Center for Community Child Health, 2002). The disabled miss the chance to participate in social activities due to the several barriers imposed on them. It is found that YPWD spends more time in front of television than those without disability (Steele et al. 1996). The disabled usually compare themselves with normal people which results in their low self-esteem. A minor accomplishment in the social/community activity improves their self-confidence and helps them to gain more confidence which further promotes their self-esteem. These types of activities can also prove beneficial in their academics that improves their emotional conditions like depression, anxiety and improving life satisfaction (King et al. 2003; Rodgers and Ziviani 2009).

Many factors influence the YPWD's involvement in social/community/outdoor activities; their physical ability, functional behavior, age, socio-economic factors, attitude of family members, interests and factors within the physical and institutional environments (Law et al. 1999; Rimmer et al. 2004). The external factors such as temperature, noise, humidity, crowd and the accessibility of school, home, transportation, recreational service center and other social service centers introduce the limitations in social/community/outdoor activity participation. Due to the lack of service providers, well trained teachers/trainees/coaches and outdoor activity programs creating barriers in participation for YPWD (Law et al. 2007). The families with disabled members earn less than those families without them. The attitude of family members and the family income plays a major role in sending and participating YPWD in social/community/outdoor activities (King et al. 2006). Parents should be able to experience the interests of the disabled ones and find a pathway to the opportunities for active participation in social/community/outdoor activity. They mostly consider the disabled ones as an additional burden in their ongoing daily life (Jaarsma et al. 2015). It is most important to provide safety and pay attention to each individual while implementing the services to YPW, so as to ensure safety in terms of personally and physically. Immense care should be provided while handling the equipment's and involving them in social activities.

Physical Activity

Lack of physical activity in YPWD executes increased cardiovascular and musculoskeletal problems and does not avail the cognitive benefit. So it is necessary to promote Physical activities that improve memory, brain functioning and cardiovascular system and thereby keeping the body fit (Kramer et al. 1999).

Moore et al (2010) analyzed facilitates and barriers to access the physical activity for urban and rural youth. Thirteen adults and their parents from North Carolina are taken as the participants of the study. They found that the young people do not meet the optimum level of physical activity. They found that distance, cost, policies, television and danger/crime makes barriers to access the physical activity services. Ploughman (2008) conducted a commentary review to examine the relationship between the exercise and cognitive function in YPWD. YPWD are less active in physical exercise than those without disability and do not acquire the benefits. They suggest that moderate physical activity is required for young people for their enhanced brain functioning and is critical for YPWD.

Bloemen et al (2015) analyzed the factors involved in physical activity of people with spinal bifida. They have studied the personal and environmental barriers associated with the participation of people with spinal bifida in physical activity as experienced by them and their parents. The young people affected with spinal bifida are less active and fit as compared to other people with disability. For their study they selected children aged between 4-7 years, youth aged between 8-18 years and their parents. Group and individual interviews were conducted to collect the data. They found that the physical fitness, self-care, neatness, medical assistance and competence are the personal barriers hinder in their active participation in the physical activity. Dependency, accessibility, lack of information about the physical activity and use of assistive devices are found to be the environmental barriers associated with physical activity participation.

Sports Participation

Participation in sports activity from the childhood is important for people with disability to lead a positive life. It is found that the participation in sports activity is significantly low in children with disability than those without disability and that might have implications on their health condition, social participation, life satisfaction, enjoyment and self-confidence (Majnemer et al. 2008). The hindrances as acknowledged by parents of disabled ones are cost, lack of time, lack of equipment and the limitations in travelling. The professionals suggest that the lack of knowledge in handling equipment's, lack of proper training to handle the children with disability and to conduct sports activities (Bedell et al. 2012; Heah et. 2007) might seem even harsh barriers.

Jaarsma et al (2014) analyzed the barriers and facilitators of disabled children in participation of physical activity. They have collected data from children aged between 8 and 20, their parents and their health professionals in Netherland. They had simultaneously used both qualitative and quantitative method to collect the data and found that the major factor as a barrier and facilitator is the health of the disabled one. It is found out from the study that the attitude of family

members, transportation, dependency on others for accessing services, lack of information about the sports facility and the acceptance in society are the main other factors influencing their active participation.

Jaarsma et al (2014) conducted a systematic review on the facilitators and barriers for people with disabilities in participating sports activity and found that mostly people with disability do not participate in sports activity regularly, which leads to one or the other health issues and in some cases even serious complications. They found from their literature study that personal barriers and environmental barriers lead to the limitations in sports activity participation. Personal barriers include their disability and health condition. Environmental barriers include limitations in accessing services, limited information about the services and transportation. The facilitators are both personal and environmental, enjoyment and health counted to personal facilitator, social contact and relationships adds to environmental facilitators.

Sahlin et al (2015) analyzed the impact of sports activity, participation and quality of life with people having neurologic disability. In their narrative review they discussed about the facilitators and barriers in sports activity and participation of people having neurologic disability of all age groups. They found that the children and adolescents involved in sports activity have scores similar to that of people without disability. Adults who participated in sports activity experienced low depression, increased life satisfaction, increased opportunity for employment as compared to those who does not participate in sports/physical activity and found that the facilitators included the fun, social contact, physical fitness and social aspects and the barriers includes the lack of medical advice and services, disability, decreased self-esteem/confidence, prejudice of society towards them and dependency on other people.

Vute (1994) conducted a study to find the attractiveness of YPWD towards sports activities. They opted for the physically disabled youth aged between 12 and 21 at Kamnik to direct the study. They used questionnaire method to collect the data. The sports activities have an important role in utilizing free time and also contribute power and independence to YPWD.

Leisure Activity

Participating in leisure activity is the basic human right and is important for the improvement of quality of life (Yalon-Chamovitz and Weiss 2008). People with disability are often prejudiced and regulated from participating in leisure activity. Involving in Leisure activities has several positive impacts on personal development, mental and psychological growth (Cassidy 1996). There is a direct relationship between leisure activity and self-esteem and similarly indirect relationship between leisure activity and depression (Kinney and Coyle (1992). Leisure activities for people with disability include art/craft work, watching television, listening music, swimming, horseback riding, cooking, gardening and reading.

Speech et al (2002) analyzed the importance of leisure activities in people with congenital physical disability. The analysis is based on an interview protocol

among 9 adults aged between 30-50 and the findings suggest that the leisure activities among those people has improved their self-esteem, self-concept, social relationship, physical fitness and happiness. The crisis relating to lack of support and transportation problems to participate in leisure activities and the lack of awareness amongst the instructors assigned for this job also creates barriers for disabled ones.

Yalon-Chamovitz et al (2007) studied about the Virtual Reality (VR) as a leisure activity for young people having intellectual and physical disability. The use of VR for recreational activity has grown in the past few decades and few applications have been reported for people with intellectual disability. They chose thirty three men and women with moderate intellectual disability and severe cerebral palsy cases for their study. They found that the virtual reality based activities were successfully satisfying. The VR based leisure activities were motivating, enjoyable and inspirational to young people with physical disabilities and intellectual disability.

Malone et al (2016) analyzed the effect of active video gaming in people with disability. Active video gaming is a health motivating activity for people with disability. They considered 5 girls and 11 boys with mean age of 13.8 ± 2.7 and having physical disability and cerebral palsy or spina bifida. They proposed as a result of their study that there exists a direct relationship between game performance and exercise intensity with active video gaming enjoyment especially for people having mobility impairment.

Dana Anaby et al. (2016) conducted a study to examine the effectiveness of environment based interventions on participation of YPWD. Recently the therapeutic inventions suggest that environment changes are better and useful method, rather than changing the children's ability, to participate in leisure and community activity. They picked people with disability aged between 12-18 from the metropolitan area of Quebec. They found that the therapeutic facilities can prove beneficial in changing the mentality of the people in accordance with the changing social conditions.

Law et al (2015) conducted a study on the involvement of YPWD in leisure-community based activities by changing environment. YPWD face restrictions in participating in community/society based leisure activities. Six young people with disability are participated in their study and analyzed using Canadian Occupational Performance Measure (COPM). Their findings indicate that the environment based methods are more effective and feasible to promote leisure activity participation of YPWD. Bult et al (2011) done a systematic literature review to identify the factors involved in the frequency of participation in leisure activity for children and youth with disability. Gross motor function, cognitive and manual ability, communication skill, age and gender are the important factors identified in their literature in determining the participation of people with disability in leisure activity.

Law et al (2007) described the observations of parent on environmental barriers to recreational, community and school activities of YPWD and children with disability. They observed 427 child-parent pair from Mc-Master University for

their study. They found that the attitude of society, policies, home and institute environment (physical and structural barriers), support from others, current technology and products are the influential factors in the participation of disabled children and youth in recreational, community and school activities. It is not healthy to change the child's functional ability, but it is better to encourage them to participate in different activities to minimize the disability gap between child's capability and environmental/physical demands.

Other factors

Anaby et al. (2015) conducted a survey to study the experience and observation of occupational therapist who applied for the Pathways and Resources for Engagement and Participation (PREP) approach. They found that the environment played a vital role in determining the participation of YPWD with the attitude of other people and institutional factors. Clinical skills and intervention 1 methods are applied by the therapists to environmental barriers which has progressive effect as compared to other conventional technique.

Palisano et al (2009) analyzed the social and community based activities of children and adults with cerebral palsy. Their objectives of the study include (1) identifying the activities in which the participation is highest, (2) to determine whether the participation in social and community based activities differ with age, sex and gross motor function. The participants of the survey included the ones aged between 6 to 21 years, who receive the services from shrined hospital and kluge rehabilitation centers for children. They found that the participation in social and community based activities differ according to age and gross motor function; not sex.

Discussion

The aim of this systematic review is to analyze the outdoor/social/community participation of YPWD and different factors affecting the participation. Children with disability get chances to participate in social/community/outdoor activities during schooling. Opportunities to participate in such activities are getting reduce when they moveout from school or institution. YPWD are at higher risk of having reduced physical/sports/leisure/other outdoor activities and availing less benefits of that. A special attention is required to make opportunities for YPWD widely feasible so that they could participate in outdoor activities. Adolescence is a high risky period especially for disabled ones in terms of physical and mental behavior and personnel security. Social/community/outdoor activities provide the same benefits to YPWD as those people without disability. From this survey it is found that there are many benefits to YPWD once they involve themselves in social/community/outdoor activity such as self-respect, self-confidence, enjoyment, fun, relaxation, improving social contacts, improves communication skills, independence, body fitness, cardiovascular system fitness, musculoskeletal system fitness, flexibility etc. Involvement in such activities help them to perceive an identity of their own and boosts their confidence to prepare themselves for their future. The extent of participation depends upon the type of activity chosen and their specificinterests. The YPWD are at higher risks of being less adjusting and this can be improved only through social/community/outdoor activities,

since it provides an opportunity to them to build social relationship, friendship and communication (Kinney, & Coyle. 1992).

Even though social/community/outdoor activities result in many physical, mental and psychological benefits, the YPWD do not participate easily in the activities. This survey also finalizes that many barriers (personal barriers and environmental barriers) faced by the YPWD to involve themselves in the social/community/outdoor activity (Specht et al. 2002). The disability itself is a main barrier to be taken to concern (Pittet et al. 2009). Some of the services associated with the activities are very much available and most of the services are expensive, inaccessible or involves high risk of personal safety (Specht et al. 2002).

Environmental barriers

1. Access to leisure/physical/sports activity services
2. Limited transportation services.
3. Expense.
4. Lack of information about the outdoor activities.
5. Lack of awareness amongst the trainees/teachers/coaches and equipment's.
6. Limitations in conducting programs for YPWD.
7. Attitude and prejudice of society and family members.
8. Climate changes, crowd, noise, etc.
9. Institution/school/building environment.
10. Dependency.

Personal barriers

1. Lack of motivation/support
2. Limitations due to physical strength/appearance/energy.

YPWD needs to take immense effort and face the challenges to overcome the barriers in order to lead successful/satisfied life than people without disability. While choosing the interested activity they face both barriers and facilitators. Creating awareness about the importance of participation in activities is a crucial factor concerning those with disability. The programs focusing on YPWD to improve the quality of their life is most important. Creating awareness about all possible barriers prior to their participation prepares to face and overcome those challenges/barriers. So the family members should take efforts from their very childhood to identify their interests and thereby provide opportunity/support to participate in their own interested activity of either social/community/outdoor type. The society should respect their wishes, views and support them to be independent and achieve a better satisfied life. Training programs are found to introduce positive impact in people with disability (de Groot et al. 2011; Verschuren et al. 2007). During schooling, most of the time they are spending in private spaces. So basic information/education about the importance of such activities learnt from there makes their concept more concrete. Proper training is required for those people who take care of the disabled people as the teachers/trainees/coaches and their knowledge about the devices, programs, and psychological factors plays an important role in making the disabled people more active in social/community/outdoor activities. It is required to create awareness

about the current technology and facilities that can be essentially useful to them. Support from society plays a key role in making the disabled people more confident in their life. Virtual environment provides safe access to realistic service that would otherwise be inaccessible to people with disability. The relative easiness of changing the virtual environment and the ease of adaptability make the VR more attractive to disabled people.

It is known that all the negative barriers cannot be modified, but that can change/overcome by positive factors. An active co-ordination of family members, teachers/care takers and coaches are required to understand their abilities and to give proper training to make their life successful and satisfied. Providing basic education and making them aware about the benefits and barriers while participating in various activities is the primary thing. Government and other organizations should focus on conducting better programs to make opportunities easily available to them. Employment of the people with disability is another important factor to be considered as it leads them to a better satisfied and responsible life. More research is required to be made on the social/community/outdoor activity of young people that should focus on participation on category wise disability and region wise. The social media and modern communication technology and other facilities would help them to participate, to get more information, to get more social contacts and other benefits. More study is required to delve into and analyze the use of modern technology for YPWD so that their participation can be improved by critically implementing and resolving the pros and cons. This literature review demonstrates that an in-depth study is required still to fill the gap between participation of YPWD in various activities and environmental/personal demands/barrier, application of modern social media, communication and other technologies to improve the involvement in various activities of YPWD.

Limitations

Participation of YPWD in social/community/outdoor activities is surveyed and analyzed in this paper. We have delved into four sectors like sports activity, physical activity, leisure activity and other activities including environmental factors. Most of the collected papers represent the disabled people from various schools in the cities of countries like Netherland, Canada, US etc. So it was necessary to broaden the study outside the school, representing YPWD from urban and rural areas from different countries other than mentioned above. Majority of the papers collected were focused on both children and young people less than 20 years. It was necessary to emphasize more on YPWD aged between 17- 25 from different culture, region, lifestyle and profession. Only few themes related to the relevant issue was discussed in this paper and was necessary to broaden the themes to the effect of excursion, summer camp and other related activity for YPWD. Different categorized studies are required to identify the problems/factors specifically depending upon region, lifestyle, age and disability type.

Conclusion

This paper comprises a summary of critical systematic survey of factors affecting the participation of YPWD in social/community/outdoor/recreational activities. Belonging to the most vulnerable category these. This restriction to those people comes from the society itself and the disabled people outside the school often get less opportunity to address their issues related to this topic. The chief findings of this systematic review are that the diligent participation in various activities provides several physical, mental and psychological improvements to YPWD, akin to the abled ones. Even though YPWD do not still fully involve themselves in social/community/outdoor/recreational activities, it is high time they be given abundance of motivation to do so. Misconceptions of the society, environmental barriers, attitude of other people, physical disabilities, dependency, lack of confidence, lack of proper information etc, are the main barriers faced by them. So it is necessary to make awareness in the society to eradicate the misconceptions, requirement of more training programs for care takers, a long term planning from childhood onwards are required to get the support from society for the YPWD to lead a successful/satisfied life. An in-depth research is required to improve the quality life of YPWD by providing them the opportunity to participate in various activities and the studies related to the effects of social media and other modern communication technologies that may improve their life to a great extent.

Compliance with ethical standards

A. Disclosure of potential conflicts of interest.

Author A declares that he/she has no conflict of interest. Author B declares that he/she has no conflict of interest.

B. Research involving human participants and/or animals.

Our Paper is a Systematic review based on literature survey.

C. Informed consent

Review paper is based on Literature survey.

References

- Anaby, D. Hand, C. Bradley, L. Direzze, B. Forhan, M. Digiacomio, A. and Law, M. (2013). The effect of the environment on participation of children and youth with disabilities: A scoping review. *Disability and Rehabilitation*, 35(19), 1589–1598.
- Anaby, D. Law, M. Teplicky, R. and Turner L. (2015). Focusing on the Environment to Improve Youth Participation: Experiences and Perspectives of Occupational Therapists. *International Journal of Environmental Research and Public Health*, 12(10): 13388–13398.
- Anaby, DR. Law, MC. Majnemer, A, and Feldman, D. (2016). Opening doors to participation of youth with physical disabilities: An intervention study. *Canadian Journal of Occupational Therapy*, 83(2), 83-90.
- Bedell, G. Coster, W. Law, M. Liljenquist, K. Kao, YC., Teplicky, R. Anaby, D. and Khetani, MA. (2012). Community participation, supports, and barriers of school-age children with and without disabilities. *Archives of physical medicine and rehabilitation*, 94(2), 315-323.

- Bloemen, AT. Verschuren, O. Mechelen, C. Borst, H E. Leeuw A J. Hoef, M. and de Groot, JF. (2015). Personal and environmental factors to consider when aiming to improve participation in physical activity in children with Spina Bifida: a qualitative study. *BMC Neurology*, 15(1), 1-11.
- Bult, MK. Verschuren, O. Jongmans, MJ. Lindeman, E. and Ketelaar, M. (2011) What influences participation in leisure activities of children and youth with physical disabilities? A systematic review. *Research in developmental disabilities*, 32(5), 1521-1529.
- Canadian Parks and Recreation Association. *Recreation and children and youth living in poverty: barriers, benefits and success stories*, Ottawa
- Cassidy, T. (1996). All work and no play: A focus on leisure time as a means for promoting health *Counselling Psychology Quarterly*, 9(1), 77-90.
- Center for Community Child Health, Waters. E. Goldfeld. S. and Hopkins. S. (2002). *Indicators for child health, development and wellbeing*, Royal Children's Hospital, Australia.
- Clark, A. and Hirst, M. (2007). Disability in adulthood: Ten year follow-up of young people with disabilities. *disability, Handicap & Society*, 4(3), 271-283.
- FA: Mohammed, R. A., Saifaddin, A. L., Mahmood, H. F., & Habibi, N. (2022). Seismic Performance of I-shaped Beam-column Joint with Cubical and Triangular Slit Dampers Based on Finite Element Analysis. *Journal of Studies in Science and Engineering*, 2(1), 17-31.
- FA: Hersh F. Mahmood, Hooshang Dabbagh, Azad A. Mohammed, Comparative study on using chemical and natural admixtures (grape and mulberry extracts) for concrete, *Case Studies in Construction Materials*, Volume 15, 2021,
- Kumar, S. (2022). A quest for sustainium (sustainability Premium): review of sustainable bonds. *Academy of Accounting and Financial Studies Journal*, Vol. 26, no.2, pp. 1-18
- Allugunti, V.R. (2019). Diabetes Kaggle Dataset Adequacy Scrutiny using Factor Exploration and Correlation. *International Journal of Recent Technology and Engineering*, Volume-8, Issue-1S4, pp 1105-1110.
- De Groot, JF. Takken, T. van Brussel, M. Gooskens, R. Schoenmakers, M. Versteeg, C. Vanhees, L. and Helders P. (2011). Randomized controlled study of home-based treadmill training for ambulatory children with spina bifida. *Neurorehabilitation and Neural Repair*, 25(7), 597-606.
- Harden, A. (2010). *Mixed-methods systematic reviews: integrating quantitative and qualitative findings. Focus: A Publication of the National center for the Dissemination of Disability Research (NCDDR) Technical Brief*, 2010 (25), 1-8.
- Heah, T. Case, T. McGuire, B. and Law, M. (2007). Successful participation: the lived experience among children with disabilities. *Canadian Journal of Occupational Therapy*, 74(1), 38-47.
- Jaarsma, EA. Dijkstra, PU. de, Blecourt, AC. Geertzen, JH. and Dekker, R. (2015). Barriers and facilitators of sports in children with physical disabilities: a mixed-method study. *Disability and Rehabilitation*, 37(18), 1-9.
- Jaarsma, EA. Dijkstra, PU. de, Blecourt, AC. Geertzen, JH. and Dekker, R. (2014) Barriers to and facilitators of sports participation for people with physical disabilities: A systematic review. *Scandinavian Journal of Medicine & Science in Sports*, 24(6), 871-881.
- Joanna Briggs Institute. (2014). *Joanna Briggs Institute reviewers' manual*, Australia.

- King, G. Law, M. King, S. Rosenbaum, P. Kertoy, M. K. and Young, N L. (2003). A conceptual model of the factors affecting the recreation and leisure participation of children with disabilities. *Physical & Occupational Therapy in Pediatrics*, 23(1), 63-90.
- King, G. Law, M. Hanna, S. King, S. Hurley, P. Rosenbaum, P. Kertoy, M. and Petrenchik, T. (2006). Predictors of the leisure and recreation participation of children with physical disabilities: a structural equation modeling analysis. *Children's Health Care*, 35(3), (209-234).
- Kinney, WB. and Coyle, CP. (1992). Predicting life satisfaction among adults with physical disabilities, *Archives of Physical Medicine and Rehabilitation*, 73(9), 863-869.
- Kramer, AF. Hahn, S. Cohen, NJ. Banich, MT. McAuley, E. Harrison, CR. Chason, J. Vakil, E. Bardell, L. Boileau, RA. and Colcombe, A. (1999). Ageing, fitness and neurocognitive function, *Nature* 400(6743), 418-419.
- Larson, RW. and Verma S. (1999). How children and adolescents spend time across the world: work, play, and developmental opportunities. *Psychological Bulletin*, 125(6), 701-736.
- Law, M. Anaby, D. Imms, C. Teplicky, R. and Turner, L. (2015). Improving the participation of youth with physical disabilities in community activities: An interrupted time series design. *Australian Occupational Therapy Journal*, 62(2), 105-115.
- Law, M. Petrenchik, T. King, G. and Hurley, P. (2007). Perceived Environmental Barriers to Recreational, Community, and School Participation for Children and Youth With Physical Disabilities, *Archives of physical medicine and rehabilitation*, 88(12):1636-1642.
- Law, M. Haight, M. Milroy, B. Williams, D. Stewart, D. and Rosenbaum, P. (1999). Environmental factors affecting the occupations of children with physical disabilities. *Journal of Occupational Science*, 6(3), 102-110.
- Majnemer, A. Shevell, M. Law, M. Birnbaum, R. Chilingaryan, G. Rosenbaum, P. and Poulin, C. (2008).
- Malone, L A. Rowland, L J. Rogers, R., Mehta, T. Padalabalanarayanan, S., Thirumalai, M. and Rimmer, H J. (2016). Active Video gaming in Youth With Physical Disability: Gameplay and Enjoyment, *Games for Health Journal*, 5(5): 333-341.
- Manus, Mc V. Corcoran, P. and Perry, I. J. (2008). Participation in everyday activities and quality of life in pre-teenage children living with cerebral palsy in south west Ireland. *BMC Pediatrics*, 8(1), 1-10.
- Moore, JB. Davis, CL. Baxter, SD. Lewis, RD. and Yin, Z. (2008). Physical activity, metabolic syndrome, and overweight in rural youth. *The Journal of Rural Health*, 24(2), 136-142.
- Palisano, RJ. Kang, LJ. Chiarello, LA. Orlin, M. Oeffinger, D. and Maggs, J. (2009). Social and Community Participation of Children and Youth With Cerebral Palsy Is Associated With Age and Gross Motor Function Classification. *Physical Therapy* 89(12), 1304-1314.
- Pittet, I. Berchtold, A. Akre, C. Michaud, PA. and Suris, JC. (2009). Sports practice among adolescents with chronic health conditions, *JAMA Pediatrics*. 163(6), 565-571.
- Ploughman, M. (2008). Exercise is brain food: The effects of physical activity" on cognitive function. *Developmental Neurorehabilitation*, 11(3), 236-240.

- Rimmer, JH. Riley, B. Wang, E. Rauworth, A. and Jurkowski, J. (2004). Physical activity participation among persons with disabilities: barriers and facilitators. *American Journal of Preventive Medicine*, 26(5), 419–425.
- Rodgers, S. and Ziviani, J. (2009). Occupational Therapy with Children: Understanding Children's Occupations and Enabling Participation. *occupational Therapy In health care*, 22(4), 87-89.
- Sahlin, KB. And Lexell, J. (2015). Impact of Organized Sports on Activity, Participation, and Quality of Life in People With Neurologic Disabilities. *PM&R, Elsevier*, 7(10), 1081-1088.
- Simpkins, S D. Ripke, M. Huston, A. C. and Eccles, J. S. (2005). Predicting participation and outcomes in out-of-school activities: Similarities and differences across social ecologies. *New Directions for Youth Development*, (2005(105), 51-69.
- Specht, J. King, G. Brown, E. and Foris, C. (2002). The Importance of Leisure in the Lives of Persons With Congenital Physical Disabilities. *The American journal of occupational therapy.: official publication of the American Occupational Therapy Association*, 56(4), 436-445.
- Steele, C A. Kalnins, I V. Jutai, J W. Stevens, S E, Bortolussi, J A. and Biggar, W D. (1996). Lifestyle health behaviours of 11- to 16- year old youth with physical disabilities. *Health Education Research*, 11(2), 173-186.
- United Nations. (2014). *Convention on the rights of persons with disabilities*.
- Verschuren, O. Ketelaar, M. Gorter, JW. Helders, PJ. Uiterwaal, CS. and Takken, T. (2007). Exercise training program in children and adolescents with cerebral palsy: a randomized controlled trial. *Archives of Pediatrics and Adolescent Medicine*, 161(11), 1075-1081.
- VuteRajko. (1994). Sports for the Disabled in Slovenia—New Directions: Institutionalized Physically Disabled Youth in Slovenia and Their Preferences in Active and Passive Sports Participation, Yabe, Kand K Katsuhiko (Eds). *Adapted Physical Activity: Health and Fitness*, Tokyo, Springer Japan, 41-46.
- World Health Organization (WHO). (2001). *International classification of functioning, disability and health*, Geneva.
- Yalon-Chamovitz, S. and Weiss, PL. (2008). Virtual reality as a leisure activity for young adults with physical and intellectual disabilities. *Research in Developmental Disabilities*, 29(3), 273-87.