Original Article

Awareness and Knowledge about Pediatric Physiotherapy among Anganwadi Workers in the Urban Area of Kalyan Dombivli Municipal Corporation – A Cross-sectional Study

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Abstract

Introduction: Anganwadi workers (AWWs) are the only community workers who come in contact with vulnerable population, such as pregnant women, lactating mothers, and children <6 years of age. A survey among AWWs can uncover barriers faced by families in accessing pediatric physiotherapy services. **Objectives:** The objective of this study was to assess the awareness and knowledge about pediatric physiotherapy among AWWs in the urban area of Kalyan Dombivli Municipal Corporation. **Materials and Methods:** A validated, self-designed questionnaire was administered to 158 AWWs during monthly meetings across seven anganwadis. The data obtained were analyzed in Microsoft Excel using descriptive statistics, where frequencies and percentages are used to describe core findings of awareness and knowledge levels. **Results:** AWWs possess satisfactory awareness regarding pediatric physiotherapy (46.20%) and developmental milestones (42.41%). Only 38.61% AWWs were informed about pediatric physiotherapy during their training period and very few (8.23%) were aware of the nearest physiotherapy center. AWWs have satisfactory knowledge about treatment options included (77.50%) and conditions treated by pediatric physiotherapy (65.85%), about risk factors (70.63%), but poor knowledge about the achievement age of developmental milestones. **Conclusion:** There is satisfactory awareness and knowledge about pediatric development and treatment services among AWWs, and it can be increased by adding information regarding pediatric physiotherapy in their training syllabus.

Keywords: Anganwadi workers, community, community-based rehabilitation, physiotherapist

Introduction

In India, the Integrated Child Developmental Services (ICDS) is one of the programs that has been geared toward reducing the burden of illness and mortality among women and children. The ICDS team comprises the anganwadi workers (AWWs), anganwadi helpers, supervisors, Child Development Project Officers, and District Program Officers. This program comprises a package of services such as immunization, supplementary nutrition, health checkups, health education, referral services, and preschool informal education. All these services are provided by trained AWWs in the anganwadi center.[1] An anganwadi means "courtyard play center" and serves a population of 400–800 people located within an accessible distance (100–200 m) from beneficiary households.[2] At present, 13.96 lakhs anganwadi centers are registered in India, and there are a total of 1,293,448 AWWs working across the country.[2] The AWWs are frontline, community-based voluntary worker of the ICDS program, and the role of AWWs has been appreciated as the most dedicated and public servants who can develop grassroots contacts through a solitary means of house-to-house access to the health system for the identification of physical problems and for the provision of basic health care.[3,4]

The AWWs are a good source of identifying people with disabilities in the community and detecting incipient and

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preventable disabilities, also can help to prevent permanent disabilities in children and create awareness among the public about the various rehabilitation facilities and the role played by physiotherapists.[3,4] AWWs are formally trained for nonformal, preschool education, which caters to the developmental needs of children between 3 and 6 years of age and provides various referral services to children.[5] Identifying the children struggling with developmental delays (DDs) is vitally important, and AWWs are assigned to work for identifying the children with disabilities in the community.

DD occurs when a child exhibits a significant delay in the acquisition of milestones in one or more domains of development (i.e., gross motor, fine motor, speech/language, cognitive, personal/social, or activities of daily living).[6] Since AWW are closely involved with children and families from early childhood for a significant impact on the course of the child's development. Gathering their insights through a survey about their awareness and knowledge about child development and pediatric physiotherapy can provide valuable information on the specific needs, challenges, and awareness levels related to physiotherapy, and mainly pediatric physiotherapy, within communities.

Although many studies have been conducted to identify awareness of physicians, nurses and medical students, and the public about physiotherapy, no studies have been conducted to identify the awareness among AWWs about the advantages and services provided by physiotherapists.[6] It is evident that only those AWW who have good knowledge can help the community regarding pediatric physiotherapy care, and thus, the need for the study was felt. Thus, the objectives of the study are to assess awareness and knowledge about pediatric physiotherapy among AWWs using a validated, self-designed questionnaire.

Materials and Methods

Permission and approval were taken from the institutional scientific review committee with approval no. SIA/Physio/SRC_015 for data collection. Then, the permission was taken from the Child Development Project Office (urban), Kalyan. As per the operational definition, awareness refers to the individual's recognition, perception, or consciousness about the existence, scope, and role of pediatric physiotherapy services within the community. In this study, awareness was measured through participants' responses to questions assessing whether they had heard of pediatric physiotherapy and their sources of information (e.g., media, medical professionals, or training) and knowledge defined as comprehension and understanding of concepts, facts, and practical information related to pediatric physiotherapy including its purpose, treatment areas, conditions requiring referral, and developmental milestones relevant to physiotherapy practice. In this study, knowledge was assessed using a validated, self-designed questionnaire containing factual questions regarding the scope and application of pediatric physiotherapy. The validated, self-designed questionnaire comprised of 2 sections: Section A collected demographic data (age, education, working experience, work location) and Section B was designed to assess the participants' awareness and knowledge regarding pediatric physiotherapy. Out of ten, six awareness questions focused on whether AWWs were aware of pediatric physiotherapy, their primary sources of information and whether they had received any prior information during ICDS training. Knowledge questions were four, mainly assessing the participants' understanding of the scope and role of pediatric physiotherapy, including areas such as treatment options, conditions requiring physiotherapy referral, risk factors for DDs, and knowledge of developmental milestones. Out of 10, nine were closed-end questions. A questionnaire was developed in English and Marathi. Two subject experts validated the questionnaire before its application.

The sample size was calculated using OpenEpi software Version 3.01 (Open Source Epidemiologic Statistics for Public Health, Emory University, Atlanta, GA, USA) using the formula:

$$n = (\text{DEFF} \times Np\,[1 - \text{p}]\,[d2/Z21 - \alpha/2 \times [N - 1] + p \times [1 - p])$$

Based on the total population size (N) of 266, the hypothesised % frequency of outcome factor (p) is 50%, confidence limits (d) set as 5%, and design effect as 1, the determined sample size was 158 participants.

The principal investigator approached the Mukhya Sevika at the Child Development Project Office, Kalyan, to obtain permission to visit anganwadi centers during monthly meetings [Figure 1]. A total of 266 AWWs are working in the Kalyan Dombivli Municipal Corporation (KDMC) urban region, out of which 158 workers were selected using convenient sampling from localities such as Krantinagar, Azde Gaon, Nilaje Gaon, Pisavali, Ambivli, Netivali, and Kala talao [Figure 2]. The study purpose was explained to participants, and written consent was obtained. The validated, self-designed questionnaire was then distributed, and participants were requested to complete it on-site [Figures 3-5]. The investigator remained present throughout to clarify any doubts and collect the completed forms. Data collection was carried out over 6 months, from October 2023 to March 2024. The collected data were analyzed in Microsoft Excel using descriptive statistics, where frequencies and percentages were used to describe core findings of awareness and knowledge levels.

Results

Age-wise distribution (in years) showed that the largest proportion of AWWs (48.73%) belong to the age group 41–50 years, with a mean age of 46.89 ± 7.13 years [Table 1]. Education-wise distribution showed that the maximum number of AWWs (31.01%) are graduates [Table 1]. Regarding working experience, the maximum AWWs (60.76%) have experience between 11 and 20 years, with a mean of 39.5 ± 42.02 [Table 1].

Less than half of AWWs are aware of pediatric physiotherapy (46.20%), and few AWWs have received relevant information during their training (38.61% for pediatric physiotherapy and 42.41% for developmental milestones). Many of them are unaware of when to refer a child for pediatric physiotherapy (91.77%) and the location of the nearest pediatric physiotherapy center (91.14%). Information sources are varied, with medical resources (38.64%) being the primary, followed by mass media (30.68%) and personal contacts (20.45%).

Figure 1: Permission taken from Mukhya Sevika at the Integrated Child Developmental Services scheme office of KDMC urban region, Beturkar Pada, Kalyan West

Overall, AWWs possess good knowledge regarding pediatric treatment options (77.50%), treatable conditions (65.85%), and risk factors for DD (70.63%). However, a knowledge gap has been identified concerning specific developmental milestones. The majority of AWWs are unaware of typical age ranges for key motor milestones.

Discussion

As per recent data of December 2023, Maharashtra has 110,456 Anganwadi centers and 108,507 AWWs, as per the Poshan Tracker mobile-based application rolled out by the Ministry of Women and Child Development for growth monitoring in children, and across 61,48,056 children are covered by the ICDS scheme in Maharashtra.[2] Data from the meta-analysis suggest that 421,652–522,676 congenital anomaly-affected births in India each year need rehabilitation services.[7] Some of the roles of AWWs are to organize nonformal education sessions; assist primary healthcare staff in providing health services; coordinate with block administrators, local schools, health staff, and the community; and work for other community-based activities.[1] This implies that they can be a good source of public health education to a considerable number of the population and also refer needy children to pediatric physiotherapy services as they come in contact with the children daily. One of the studies by Rao and Komala, in 2016, concluded that as the

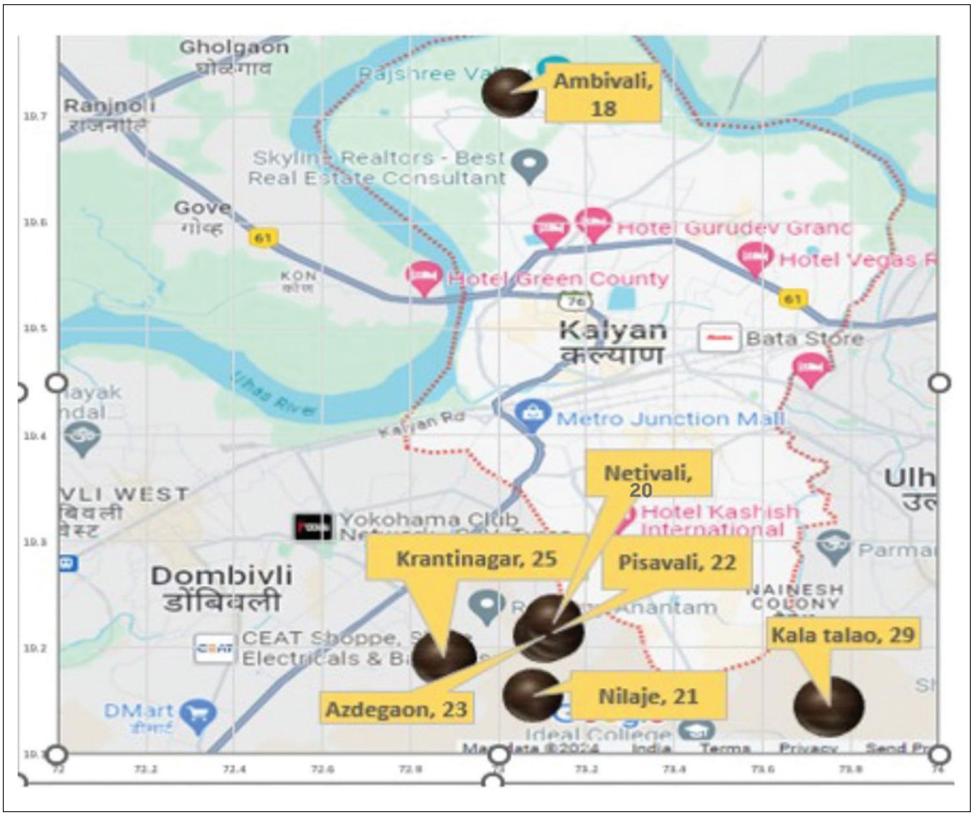

Figure 2: Study area showing the data collection sites of anganwadi centers across the Kalyan Dombivli Municipal Corporation (KDMC) region, including Ambivli, Pisavali, Netivali, Krantinagar, Nilaje, *Kala Talao, A*degaon, and surrounding localities. The numbers indicate the count of participants recruited from that location. Source: Google Maps (base map created using Google Maps platform)

first 5 years of life are important for child's development, frontline health workers like AWWs will play an important role in early identification and screening of children for DD and disabilities.[8]

There is satisfactory awareness about pediatric physiotherapy among AWWs [Table 2]. As per a study done by Swaminathan, Narasimhan *et al.* in 2013, a total of 112 AWWs participated in the study in Dakshina Kannada, and only 33% of the AWWs were aware of the role of physiotherapy in many of the impairments, and only 3% of the AWWs were informed during their training period regarding physiotherapy.[9] The majority of AWWs admit that they know what conditions need to be referred to a pediatric physiotherapist and risk factors that can cause a DD, but the majority of the AWWs have not referred the child to a pediatric physiotherapist who needed the treatment [Tables 2 and 3]. It makes clear that there is awareness and knowledge through medical sources and social media, but there is a deficiency in the implementation of the knowledge. There is a lack of in-depth knowledge on how to identify the DD and how to approach the abnormality in the child's development as many of them chose the incorrect option that at what age the milestone of development is achieved by the child [Table 3].

Many AWWs have not received information regarding physiotherapy rehabilitation services during their training periods [Table 2]. As per study done by Sondankar *et al*., in 2014, the study also suggests that continuous upgradation of knowledge of AWWs in the form of refresher training would help in regularly updating their knowledge. Frequent and intensive training improves their knowledge, and basic training should be completed before joining the AWWs. Knowledge about referral services should be given in their training period, which they can apply during their community services. Sufficient number of well-trained healthcare workers recruited at right locations are the backbone of an efficient public healthcare system.[10] The creation of health awareness and

Table 1: Demographic data of anganwadi workers

	Number of participants (%)	Mean±SD
Age-wise distribution (years)		
21–30	2 (1.27)	31.6±30.33
31–40	29 (18.35)	
41–50	77 (48.73)	
51–60	43 (27.22)	
61–70	7 (4.43)	
Education-wise distribution		
Middle school	6 (3.8)	31.6±19.63
SSC	44 (27.85)	
HSC	44 (27.85)	
Graduate	49 (31.01)	
Postgraduate	15 (9.49)	
Working experience-wise distribution (years)		
0–10	8 (5.06)	39.5±42.02
11–20	95 (60.76)	
21–30	47 (29.75)	
31–40	7 (4.43)	

Table 2: Tabular representation of awareness questions (questionnaire attached in annexure 1)

Awareness questions	Unaware, *n* (%)	Aware, *n* (%)
QA. Regarding awareness of pediatric physiotherapy	85 (53.80)	73 (46.20)
QC. Information regarding pediatric physiotherapy during training period	97 (61.39)	61 (38.61)
QG. Information regarding developmental milestones during training period	91 (57.59)	67 (42.41)
QI. Reference of child to pediatric physiotherapy	145 (91.77)	13 (8.23)
QJ. Awareness regarding nearest pediatric physiotherapy center	144 (91.14)	14 (8.86)
QB. Regarding source of information of pediatric physiotherapy		
Medical resource	-	34 (38.64)
Personal contact	-	18 (20.45)
Mass media	-	27 (30.68)
Others	-	9 (10.23)

Table 3: Tabular representation of knowledge questions (questionnaire attached in annexure 1)

Knowledge questions	Don't have knowledge, *n* (%)	Have knowledge, *n* (%)
QD. Regarding treatment options included in pediatric physiotherapy	34 (22.50)	124 (77.50)
QE. Regarding pediatric conditions treated by pediatric physiotherapy	50 (34.15)	108 (65.85)
QF. Regarding risk factors causing developmental delay in children	45 (29.37)	113 (70.63)
QH. Regarding achievement age of developmental milestones		
Jumping	82 (51.9)	76 (48.10)
Running	130 (82.28)	28 (17.72)
Copies cross sign	134 (84.81)	24 (15.19)
Makes a bridge with cube	120 (75.95)	38 (24.05)

Figure 3: Data collection at Netivali, Kalyan West, 20 participants

Figure 4: Data collection at Kala Talao, Kalyan East, 29 participants

Figure 5: Data collection at Azdegaon, Dombivli East, 23 participants

related services among socially disadvantaged individuals is a necessary step to encourage appropriate demand for available health services. AWWs are community health workers who frequently encounter socially disadvantaged individuals and can be of great help to create awareness among them.[11]

AWWs have referred a few cases correctly for pediatric physiotherapy, which can be attributed to the various sources of information that have created awareness about pediatric physiotherapy services. The leading source of information among AWWs is visits to the hospital and through medical professionals [Table 2]. This indicates that adequate information conveyed through medical professionals, hospital staff, and family members can improve awareness regarding physical rehabilitation facilities for the disabled, thus enhancing accessible and affordable public health care. Most surveys on the incidence of disability agree that the incidence of disability is higher in the pediatric and geriatric age groups.[12] The AWW must realize that physiotherapy can be adequately given to the physically disabled of any age group.

In a handbook for parents of children with disabilities, it has been commented that 10% of Indian children below 14 years account for some kind of physical impairment.[13] The available data also show that only 5%–10% of disabled children avail themselves of the benefits provided by the government.[13] In the rural areas as well as in the slums, early identification is done through door-to-door surveys and screening of children at anganwadi. Therefore, AWWs must know the various disabilities in children that can be managed by a pediatric physiotherapist.[13] From our study, it is clear that half a fraction of the population is aware of the nature of work involved in physiotherapy (PT). One of the reasons why many of the AWWs are unaware of adequate PT services is that there are only a few pediatric PT centers available in the vicinity [Table 2]. Even though one of the objectives of the Rights of person with Disabilities (RPwD) Act, 2016 is the prevention and early detection of disabilities by educating the public through primary health care, village health workers, and AWW, awareness regarding physical rehabilitation services is found to be inadequate among the AWWs.[14]

This study includes awareness and knowledge from the KDMC area only. Pan India study will help to get a nationwide survey about AWWs. Future campaigns can be conducted by physiotherapy institutes to create awareness about physiotherapy services among grassroots-level health workers. The questionnaire was limited to pediatric physiotherapy only; a few more questions can be added regarding their nutrition, vaccination schedule, and consistency in education, which will cover all domains of pediatric development.

Conclusion

The study concludes that there is satisfactory awareness of risk factors for DD, treatment options under pediatric physiotherapy, as well as satisfactory knowledge about conditions treated by pediatric physiotherapy, and more awareness and knowledge can be created by introducing pediatric physiotherapy in their training period.

Ethical consideration

The study was approved by the Institutional Review Board of The SIA College of Health Sciences, College of Physiotherapy, Dombivli, Thane (Approval No. SIA/Physio/SRC_015). Written informed consent was obtained from all the participant and confidentiality of the participants was ensured.

Author's contribution statement

RSA: Conceptualization of research, literature search, Data collection, manuscript writing and analysis. NVS: Designing of the research, statistical analysis and interpretation, manuscript reviewing and approving final version of the manuscript. AKK: Manuscript writing, Reviewing and approving the final version of the manuscript

Data availability statement

The data that support the findings of this study are available on request from the corresponding author.

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Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Park K. Preventive medicine in obstetrics, pediatrics, and geriatrics. In: Preventive and Social Medicine. 19th ed. Jabalpur: Banarsidas Bhanot Publishers; 2007. p. 475.
2. Ministry of Women and Child Development (IN). Total 13.96 lakh Anganwadis registered under the Poshan Tracker application (Internet). Press Release: Press Information Bureau; 2023. Available from: www.pib.gov.in. [Last cited on 2024 Mar 08].
3. Desai G, Pandit N, Sharma D. Changing role of Anganwadi workers, a study conducted in Vadodara district. Healthline 2012;3:41-4.
4. Mathur GP, Mathur S, Singh YD, Kushwaha KP, Lele SN. Detection and prevention of childhood disability with the help of Anganwadi workers. Indian Pediatr 1995;32:773-8.
5. Godhi BS, Kaul S, Shanbhog R. Knowledge, attitude, and practices of grassroots health workers about early childhood caries. Public Health Nurs 2021;38:913-9.
6. Poon JK, LaRosa AC, Pai GS. Developmental delay timely identification and assessment. Indian Pediatr 2010;47:415-22.
7. Hussain F, Hajra Ameer Shaikh D, Khan MS, Ibrahim S. Physiotherapy awareness among community health workers a survey. Int J Sci Eng Res 2019;10:646-50.
8. Rao VL, Komala M. The awareness among Anganwadi workers about children with developmental delays. Int J Res 2016;3:73-84.
9. Johnsey T, Swaminathan N, Rebello S, Vishal K. Awareness of physiotherapy among the Anganwadi workers in Dakshina Kannada: A survey. Muller J Med Sci Res 2013;4:57.
10. Sondankar PD, Kotnis SD, Kumavat AP. Profile of Anganwadi workers and their knowledge regarding maternal and child health services in an urban area. Int J Med Sci Public Health 2014;4:502.
11. R Guidelines. Health Component. WHO; 2010. Available from: https://whqlibdoc.who.int/publications/2010/9789241548052_health_eng.pdf. [Last assessed on 2011 Sep 04].
12. Peat M. The Magnitude of Disability. Community-Based Rehabilitation. London NW1, United Kingdom: WB Saunders Company Ltd.; 1997. p. 7-8.
13. A Handbook for Parents of Children with Disabilities, Government Appendix – Questionnaire for the Study of India, Planning Commission, 2002. Available from: https://planningcommission.nic.in/reports/sereport/ser/stdy_ied.pdf. [Last assessed on 2012 Feb 11].
14. Bhide P, Kar A. A national estimate of the birth prevalence of congenital anomalies in India: Systematic review and meta-analysis. BMC Pediatr 2018;18:175.

ANNEXURE 1

A SURVEY FORM TO FIND OUT AWARENESS AND KNOWLEDGE AMONG ANGANWADI WORKERS ABOUT PEDIATRIC PHYSIOTHERAPY

Participant number: Date:

1. BACKGROUND INFORMATION:

A. Name:

B. Age:

C. Educational qualification:

D. Address of working Anganwadi center(working location):

E. Work experience (no. of years):

F. Contact details:

G. Area covered:

H. Population covered:

I. Number of children studying under you at present:

J. Age group of children:

2. QUESTIONNAIRE:

A. Are you aware about Pediatric Physiotherapy?

1) Yes 2) No

B. If yes, then what is your source of information about Pediatric Physiotherapy?

1) Personal contact (friend/family member)
2) Mass media (internet/advertisement/newspaper/television/magazines/books)
3) Through a physician/doctor/ medical professional/health camp
4) Others_____

C. Were you informed about pediatric physiotherapy during your training period?

1) Yes
2) No

D. Are you aware about among following options what is included under pediatric physiotherapy?

1) Balance and coordination training
2) Sensory and motor development training
3) Mobility and strength training
4) All of the above
5) None of the above
6) I don't know

E. As per your information, for which of the following condition you can refer a child to a pediatric physiotherapist?

1) Cerebral palsy
2) Developmental delay
3) Down's syndrome
4) All of the above
5) None of the above
6) I don't know

F. As per your information, which one of the following is the risk factor that can cause the developmental delay in the children?

1) Preterm delivery and Low birth weight
2) Traumatic childbirth
3) Infection to the mother during pregnancy
4) All of the above
5) None of the above
6) I don't know

E. Were you informed about various milestones of development during your training period?

1) Yes 2) No

F. As per your information, choose the correct option that at what age the given milestone of development are achieved by child?

1) Jumping – a) 2 years b) 3 years c) 4 years d) 1 year
2) Running – a) 1 year b) 2 years c) 1.5 years d) 3 years
3) Copies a cross sign ( ) a) 4 years b) 2.5 years c) 3.5 years d) 5 years
4) Makes bridge with a cubes – a) 2 years b) 3 years c) 5 years d) 4 years

G. Have you ever referred any child in your locality for physiotherapy treatment?

1) Yes
2) No

H. As per your information, can you tell us the nearest pediatric physiotherapy center?

_____

PARTICIPANT'S SIGNATURE