

*Original Article*

# Infant and Toddler Development: An Outcomes Study of Early Detection Workshops

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## ABSTRACT

**Objectives:** Knowledge of developmental milestones is crucial for successful early detection to avoid long-term sequelae. This study aimed to quantify outcomes of professional development workshops conducted across Maharashtra, India on infant and toddler development and conduct a need analysis of factors that might prove to be barriers to the effectiveness of such workshops.

**Material and Methods:** Eighty-eight paediatric professionals participated in one of four workshops conducted across Pune, Sangli, and Dhule in the state of Maharashtra. The interactive workshops, led by an interdisciplinary team comprising of a neonatologist, a neonatal therapist, and a speech-language pathologist, included videos depicting typical and atypical developmental milestones, as well as the effects of early detection and intervention. Live demonstrations of screening and strategies followed. Participants responded to a ten-item questionnaire on early developmental milestones before and after the workshops. Statistical analysis involved paired T-test, ANOVA, Chi-Square test, and McNemar's test.

**Results:** The results revealed that participants' total number of correct responses increased significantly after the workshop, particularly those related to early motor and language skills. The workshop was easily accessible and understandable for 94% of participants. Over 50% of participants wanted access to online resources as a part of continuing education. The results highlighted the need for follow-up to monitor the translation of knowledge into actual changes in practice patterns.

**Conclusion:** Interdisciplinary education can have a positive impact on a paediatrician's practice of surveillance at well-baby visits, leading to improved rates of anticipatory guidance and early detection.

**Keywords:** Developmental surveillance, Early detection, Interdisciplinary team, Infants and toddlers, Professional education

## INTRODUCTION

Paediatricians play a critical role in monitoring, guiding, and supporting the growth and development of children through routine surveillance and screening protocols. According to the Indian Academy of Pediatrics, there are at least twelve vaccination visits in the first 24 months, which present easy opportunities for developmental surveillance.<sup>[1]</sup> While evidence documenting trends for developmental surveillance in India is scant, lack of implementation of professional guidelines on a national level, variability in attitudes and practices of professionals, culture-based myths, and poor parental competencies are some of the barriers that result in missed opportunities for surveillance.<sup>[2,3]</sup>

A paediatrician's role in the surveillance process is irreplaceable, given their easy access to infants and toddlers

as part of well-baby visits and the trust established with the families. They also serve as valuable team members in early intervention services by providing anticipatory guidance, support for parents, and education during these visits.<sup>[4,5]</sup> A familiar example of this is the discussion surrounding the use of baby walkers among families. Although evidence-based recommendation strongly discourages the use of baby walkers, many parents often need a discussion with their paediatricians to accept the information.<sup>[6]</sup> In contrast, a survey showed gaps in knowledge among paediatricians, but the ones who saw injuries related to baby walkers were more likely to have this discussion with families.<sup>[7]</sup>

Most commonly, paediatricians use generic milestone checklists to inform their surveillance practices. However, these milestone checklists are often limited in the number

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Received: January 20, 2025 Accepted: March 30, 2025 Epub Ahead of Print: May 10, 2025 Published: \*\*\* DOI: 10.25259/JHS-2024-9-26-(1506)

Supplementary available on: [https://doi.org/10.25259/JHS-2024-9-26-\(1506\)](https://doi.org/10.25259/JHS-2024-9-26-(1506))

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of skills across domains, especially in the early months when development is nuanced.<sup>[8]</sup> Additionally, not all milestone ranges coincide with the age of well-baby visits, which shifts the responsibility of close monitoring at-risk infants back to the paediatricians.<sup>[9]</sup> Lack of in-depth knowledge about development has been reported as a self-identified barrier by paediatricians.<sup>[10,11]</sup> Paediatricians are the initiators and driving forces behind improved surveillance rates, yet very few studies have examined gaps in developing these core competencies among them through continuing education, with none in the Indian literature.<sup>[12,13]</sup>

Allied health professionals, such as physical therapists, speech-language pathologists, and occupational therapists, possess in-depth knowledge to identify developmental differences before they become apparent and can provide anticipatory guidance to reduce functional limitations at an early stage. There is progressively more evidence suggesting the importance of interdisciplinary teamwork in clinical practice.<sup>[14,15]</sup> To strengthen this process, the contributions of allied health professionals for interdisciplinary teamwork need to be introduced in the early stages of professional medical education.

A few years ago, the introduction of a functional observation-based surveillance protocol, developed by the authors' team, in a high-risk follow-up clinic at a tertiary hospital in an urban setting led to improved surveillance and early referrals.<sup>[16]</sup> Seeing the value of an easy, multi-domain surveillance protocol, the team was invited to conduct a one-day workshop by various local chapters of the Indian Academy of Pediatrics in Maharashtra.

This paper aims to document the outcomes of four such workshops based on knowledge surveys conducted before and after the workshop. Incidental information about present developmental surveillance trends followed by paediatricians in Maharashtra was obtained.

## MATERIAL AND METHODS

The Institutional Ethics Committee of the affiliated institution reviewed the study protocol. Preliminary information related to their work settings and practices was collected prior to the workshop, and feedback was collected after the workshop. A ten-item knowledge survey was used for the pre- and post-tests.

### Participants

The sample size was calculated using G\*power software with an alpha value of 0.05, using an effect size of 0.3 at 80 percent power. The calculated sample size was 90. Of the 91 paediatric professionals who signed up for workshops across the Pune,

Sangli, and Dhule cities of Maharashtra, India, data from 88 participants (44 female, 44 male) who consented to the analysis were used.

### Material

#### Questionnaire:

A 10-item questionnaire was constructed to measure the outcomes of the workshop across the gross motor, fine motor, and communication domains. An initial pool of 47 questions was created based on literature related to motor, speech, language, and hearing milestones in the 0–24-month age range. These were evaluated by three experts: a neonatologist, a physiotherapist, and a speech-language pathologist, each with over 10 years of clinical experience working with the paediatric population. The questions were evaluated along five criteria- clinical utility, objectivity, ambiguity, simplicity, and relevance. Questions that were unanimously selected by all three experts following this evaluation were retained in the final questionnaire. The final questionnaire has been attached as supplementary material.

In addition to this, the material used in the study also included a demographic data sheet, which inquired about the paediatricians' current clinical practices and resources used to stay updated with the literature. Also, a feedback form was used to get insights for future workshops. The demographic sheet and feedback form are reproduced as supplementary material.

#### Workshop module:

The seven-hour workshop module comprising of an introductory session to review the latest evidence for the use of functional milestones for surveillance, critical periods of development, the effect of early intervention, the role of parent interactions and appropriate environment for typical development, and the role of paediatricians in the process of surveillance was created by the authors.

The learning objectives of the workshop were to introduce participants to observations of age-appropriate play and parent interaction to strengthen their surveillance practices. Well-baby visits do not always coincide with the end ranges of milestone development. The idea of the workshop was to lay out skills that can be seen at well-baby visits, which would serve as building blocks for a later milestone.<sup>[17]</sup> For example, the 6-month visit should not only be focused on the baby's ability to roll over but also the ability to lift the tummy off the floor by pushing up on the palms, the ability to get the feet to the mouth, and the ability to pivot in a circle in prone. These

are critical components of pushing up into a crawl position and coming to sit independently at 8 months.<sup>[18]</sup>

The workshop module was divided into six parts. Four of these were dedicated to the first year in 3-month age intervals, and the remaining two addressed the second year by domain of development- Motor and Language. Discussions of development within each age group followed videos of babies with typical and atypical patterns of development. Infants were invited from local hospitals for live demonstrations of observations and “catch-up” strategies offered participants practical engagement and real-life discussion. While the video-based sessions were identical in all four workshops, the live demonstrations varied based on the number, age, and developmental status of the children invited.

### Procedure

At the beginning of the workshop, all participants (n=91) were given the pretest forms. The experts then conducted the workshop as described above. At the end of the workshop, during the final Q&A session, post-tests were handed out to the participants again. Pre and post-test forms were matched for each participant. Only the scores from the participants who had consented for their data to be used for research purposes (n=88) were entered and used for statistical analysis.

### Statistical analyses

Descriptive statistics across participant subgroups were applied to the data from the preliminary information and pretest sections. Total scores were compared using an independent samples t-test and one-way ANOVA. Chi-square tests explored the association between the frequency of correct responses for individual items and independent variables such as gender or type of practice. Outcomes of the workshops were measured using a paired t-test to compare total scores and McNemar’s test to explore changes in performance for individual items of the questionnaire.

In addition, qualitative analyses were conducted to identify dominant themes that emerged from the responses to the feedback forms. The participants’ comments about three things they liked about the workshop were transcribed verbatim. They were independently classified into themes by the first and second authors. Comments on which the two authors did not concur were then classified with agreement after discussion.

## RESULTS

While reporting on the current practices, 48% participants reported “ruling out ill health” to be their primary concern, in contrast to a meagre 9% reporting “development” to be

the primary concern at well-baby visits. Similarly, to judge development, 46% said they relied on history and patient examination, while 35% relied solely on the latter. Only 13% of the participants used a combination of history, patient examination, and patient report. Most paediatricians (75%) assessed development without using standardised tools, and 71% stated that they referred to only medical textbooks for information on development.

Pretest frequency analysis revealed that Q1 (appropriate age of rolling) and Q10 (use of adjusted age) elicited the maximum number of correct responses, while Q2 (Language check at 18 months) and Q5 (stacking a tower of 4 blocks) elicited the highest number of incorrect responses.

An independent sample t-test revealed no significant difference in the total number of correct responses between genders ( $t=0.55$ ,  $p=0.057$  or type of practice ( $t=0.09$ ;  $p=0.92$ ). However, a Chi-square test revealed a significant association (Chi square= 7.86;  $p=0.049$ ) between the proportion of correct responses to pre-test question 8 (age of referral for delayed walking) and types of practice. Specifically, 77% of private practitioners responded correctly to this item as compared to 50% of professionals working in hospital settings.

A paired t-test revealed a significant increase in the total number of correct responses post the workshop ( $t=6.5$ ;  $p<0.001$ ). Table 1 presents the mean and SD values of total scores before and after the workshop, across the types of practice of the respondents.

Along similar lines, changes in response trends post the workshop were analysed individually for each of the ten questions. McNemar’s test revealed a significant increase in the proportion of correct responses to Q2 ( $p=0.001$ ), Q4 ( $p<0.001$ ), Q5 ( $p=0.001$ ), Q7 ( $p<0.001$ ), and Q9 ( $p<0.001$ ) post the workshop. Table 2 shows the change in the proportion of correct responses post the workshop for each of these items.

To determine whether the gender of participants or type of practice influenced the change in the total number of correct responses after the workshop, a split-plot ANOVA

**Table 1:** Mean and SD of total scores before and after the workshop for the type of practice

| Type of practice   | Pre-workshop scores |      | Post-workshop scores |      |
|--------------------|---------------------|------|----------------------|------|
|                    | Mean                | SD   | Mean                 | SD   |
| Private            | 5.06                | 1.49 | 6.37                 | 1.50 |
| Hospital           | 5.02                | 1.64 | 6.21                 | 1.42 |
| Private + Hospital | 5.20                | 0.45 | 7.80                 | 1.30 |
| Other              | 5.00                | 2.00 | 6.33                 | 0.58 |

SD: Standard deviation.

**Table 2:** Questions that witnessed a significant improvement in responses post the workshop

| Question number | Question                        | Frequency of correct responses pre-test | Frequency of correct responses post-test | p values and statistical significance |
|-----------------|---------------------------------|-----------------------------------------|------------------------------------------|---------------------------------------|
| 1               | Age of rolling                  | 73                                      | 74                                       | 1.000                                 |
| 2               | Language check at 18 months     | 14                                      | 37                                       | <0.001*                               |
| 3               | W sitting                       | 62                                      | 61                                       | 1.000                                 |
| 4               | Language development 0-6 months | 25                                      | 62                                       | <0.001*                               |
| 5               | Stacking tower of 4 blocks      | 19                                      | 38                                       | 0.001*                                |
| 6               | Regression of babbling          | 30                                      | 24                                       | 0.327 <sup>s</sup>                    |
| 7               | Starting prone for play         | 32                                      | 75                                       | <0.001*                               |
| 8               | Referral for walking delay      | 57                                      | 37 <sup>s</sup>                          | 0.003*                                |
| 9               | Bilingualism                    | 55                                      | 71                                       | <0.001*                               |
| 10              | Use of adjusted age             | 80                                      | 83                                       | 0.508                                 |

\*Significant improvement seen on McNemar's test; <sup>s</sup> Reduction in post-test scores.

**Table 3:** Keywords to analyse themes for workshop feedback

| Theme                                  | Keywords                                                                          | Total comments |
|----------------------------------------|-----------------------------------------------------------------------------------|----------------|
| Use of videos                          | Videos/visuals                                                                    | 39             |
| Demo with live babies                  | Demos/live presentations/hands-on                                                 | 58             |
| Applicability                          | Practical application/useful/common issues/early referral/stimulation/development | 36             |
| Simplicity                             | Easy/simple                                                                       | 13             |
| Content                                | Informative/content/concept/red flags/speech/tummy time/algorithm/materials       | 44             |
| Interaction with Audience              | Interaction/discussion/clear communication                                        | 25             |
| Organisation and expertise of speakers | Time well managed/team/speakers/coordination/knowledgeable                        | 12             |

(SPANOVA; mixed between-within-subjects ANOVA) was conducted, with gender or type of practice as a between-subjects variable and total score as a within-subjects variable. The results revealed no significant interaction between the gender of participants and workshop outcome [ $F(1,86) = 0.38$ ;  $p=0.53$ ] or type of practice and workshop outcome [ $F(1,81) = 0.81$ ,  $p=0.49$ ].

Post-workshop feedback data revealed that 94% of the participants found the content easy to understand and retain, while 51% of participants expressed the need to have online resources at hand for future reference. About a quarter of the participants also suggested online resources for parents to access directly. The open-ended comments were transcribed verbatim and classified into themes by the first author in concurrence with the second author. Table 3 shows the keywords used to group the comments under one of the six themes.

A majority (51%) of the participants expressed the need to have online resources at hand for future reference, followed closely by online parent resources.

## DISCUSSION

Current trends described by the participants clearly demonstrate poor implementation of guidelines for development surveillance also seen in other parts of the world.<sup>[19]</sup> Accessing medical textbooks is not sufficient to provide the latest, updated information, nor does it translate to better clinical skills for surveillance.<sup>[20]</sup> During the interactive sections of the workshop, many participants expressed concerns related to the additional time required for using screening tools and the lack of parent-administered screening tools in local languages.<sup>[21,22]</sup>

Pre-test scores indicated three questions that had the most correct responses (Age of rolling, W-sitting, and use of adjusted age) were gross motor-related knowledge questions, while the three questions that received the least correct responses (language check at 18 months, stacking a 4-block tower and language development for 0-6 months) were related to knowledge about speech and language domain. The findings suggest that paediatricians are well-informed about easily visible or observable developmental milestones



in the gross motor domain and need more education about associated skills in other domains at the same age. Indian studies investigating the referral patterns for delays found that language delays have a higher proportion of domain-specific delays.<sup>[23,24]</sup> A Dutch study also found biases towards boys and bilingual families.<sup>[25]</sup>

Post-test score improvements were significant in five questions, 4 of which related to language and fine motor skills, indicating the need for more knowledge about development in these domains. The fifth item with a significant improvement was the early initiation of the prone position for play and development, referencing the gap between knowledge and practice.

The questions where participants had to identify the age at which a milestone like rolling or walking was achieved showed insignificant improvement in scores for the group. It is worth noting that scores for these questions showed considerable performance pre-test. There were 82% correct pre-test responses for the age of rolling and 64% for the age of walking. However, questions that asked about what activities are required to get to milestones, like “age of starting prone for play (tummy time)” or “Stacking a tower of 4 blocks” and addressing common myths like “bilingualism causes speech delays” showed significant improvement. Pre-test performance for these questions was lower than 35%. This may be because medical textbooks only provide information about the distinct age range for milestones, not addressing the continuity of development as a spectrum.<sup>[26,27]</sup>

Scores for two questions related to the age of referral for further investigation by therapists (referral for walking and hearing referral for regression of babbling) worsened significantly. For the motor milestone (Q8: Age of referral for the delay in walking), the number of correct responses (18 months) dropped from 64% to 42%. However, post-test responses for most participants indicated that they chose an age for referral earlier than the one chosen for the pre-test. 54% of the participants who had responded correctly (chosen to refer at 18 months for walking) would now refer earlier at 12-15 months. It is also important to note that all participants who had previously chosen to wait till 24 months for referral chose the 15-18-month option in the post-test. Evidence shows that walking requires practice time to synthesise and coordinate the sensory-motor system to gain proficiency as well as opportunities within their environment.<sup>[28-31]</sup> An earlier referral might serve as a preventive measure by providing families with play suggestions and environmental modifications to encourage independent walking. We consider the reduction in the number of correct responses to be a positive sign for the workshop content and facilitation.

Similarly, for the question pertaining to a reduction in babbling (Q6), although findings show that the percentage of participants who gave correct responses reduced from 33.33% pre-test to 26.96% post-test, a closer look at the frequency distribution of responses reveals an important positive outcome of the workshop. The workshop emphasised that the child begins a transition from babbling toward the first word at around 9 months. Retention of this knowledge was reflected in a positive shift in the number of respondents who chose option a (“Nothing. This is just a transition phase from babbling to single words.”). In other words, while the number of participants who chose option c (“A hearing evaluation”) reduced from pre-test to post-test, the number of respondents who chose option A increased from 13.33% to 17.97%. Option c (“A swallowing evaluation”) was the least preferred response pre-test (3.33%) and post-test (2.24%), indicating that the workshop content did not mislead participants into selecting an irrelevant response option. It must, however, be noted that most of the participants chose option d (“Increasing the amount and frequency of interaction with the child.”) pre-test (48.88%) as well as the post-test (49.43%). India has a national newborn screening program that emphasises early hearing screening as the most effective before 6 months.<sup>[32,33]</sup> The results indicate a change in the teaching module to further emphasise the importance of hearing evaluation and the relationship between hearing and speech. Although this was covered in a short segment of the workshop, it might need to be emphasised with experiential or hands-on examples in the future.

The workshop was designed to prevent a “wait and watch” response and missing opportunities for early referrals by strengthening observation skills, appreciating the complexities of development and the impact of missing critical everyday experiences required to build milestones. To the authors’ knowledge, therapist-led development-related workshops for medical professionals are rare. The workshop design addressed situations encountered in practice by the participants with a culturally appropriate, resource-limited outlook. Participants were encouraged to view development through a broader lens, considering experiences provided by the environment and parents, as well as their role in guiding such experiences for all infants under their care.

### Limitations and future directions

The participants were not followed up after the workshop to investigate the implementation of the knowledge gained and the change in practice towards surveillance. The survey used to measure change in knowledge had limited capacity, and some items should be redesigned to reduce ambiguity in the future. Future attempts at a similar workshop with interactive

learning and practice opportunities could target follow-up evaluations to measure changes in clinical attitudes and practices, as well as their impact on rates of early referrals.

## CONCLUSION

The positive outcomes of these workshops are encouraging. If paediatricians can implement the knowledge gained in their practice, it could lead to the early detection of concerns and facilitate timely intervention.

**Acknowledgment:** The author team would like to acknowledge the unwavering support and encouragement provided by Dr. Sanjay Lalwani for the initiation and dissemination of this workshop. We also wish to acknowledge the families who generously permitted us to use their videos to tailor the workshop in a more meaningful and practical manner.

**Ethical approval:** The research/study approved by the Institutional Review Board at Bharati Vidyapeeth Medical College, number BVDUMC/IEC/71A, dated 14th April 2023.

**Declaration of patient consent:** Patient's consent not required as patients identity is not disclosed or compromised.

**Financial support and sponsorship:** Nil.

**Conflicts of interest:** There are no conflicts of interest.

**Use of artificial intelligence (AI)-assisted technology for manuscript preparation:** The authors confirm that there was no use of artificial intelligence (AI)-assisted technology for assisting in the writing or editing of the manuscript and no images were manipulated using AI.

## REFERENCES

- Kasi SG, Shivananda S, Marathe S, Chatterjee K, Agarwalla S, Dhir SK, *et al.* Indian academy of pediatrics (IAP) advisory committee on vaccines and immunization practices (ACVIP): Recommended immunization schedule (2020-21) and update on immunization for children aged 0 through 18 years. *Indian Pediatr* 2021;58:44-53.
- Mukherjee SB, Aneja S, Krishnamurthy V, Srinivasan R. Incorporating developmental screening and surveillance of young children in office practice. *Indian Pediatr* 2014;51:627-35.
- Jain R, Juneja M, Sairam S. Children with developmental disabilities in India. *J Child Neurol* 2013;28:455-60.
- Combs-Orme T, Holden Nixon B, Herrod HG. Anticipatory guidance and early child development: Pediatrician advice, parent behaviors, and unmet needs as reported by parents from different backgrounds. *Clin Pediatr (Phila)* 2011;50:729-37.
- Chorna O, Cioni G, Guzzetta A. Principles of early intervention. *Handb Clin Neurol* 2020;174:333-41.
- Schechter R, Das P, Milanaik R. Are baby walker warnings coming too late?: Recommendations and rationale for anticipatory guidance at earlier well-child visits. *Glob Pediatr Health* 2019;6:2333794X19876849.
- Rhodes K, Kendrick D, Collier J. Baby walkers: Paediatricians' knowledge, attitudes, and health promotion. *Arch Dis Child* 2003;88:1084-5.
- Choo YY, Agarwal P, How CH, Yeleswarapu SP. Developmental delay: identification and management at primary care level. *Singapore Med J* 2019;60:119-23.
- Dosman CF, Andrews D, Goulden KJ. Evidence-based milestone ages as a framework for developmental surveillance. *Paediatr Child Health* 2012;17:561-8.
- Rosenberg AA, Kamin C, Glick AD, Jones MD. Training gaps for pediatric residents planning a career in primary care: A qualitative and quantitative study. *J Grad Med Educ* 2011;3:309-14.
- Thompson LA, Tuli SY, Saliba H, DiPietro M, Nackashi JA. Improving developmental screening in pediatric resident education. *Clin Pediatr (Phila)* 2010;49:737-42.
- Sharma N, Masood J, Singh SN, Ahmad N, Mishra P, Singh S, *et al.* Assessment of risk factors for developmental delays among children in a rural community of north India: A cross-sectional study. *J Educ Health Promot* 2019;8:112.
- Konantambigi RM. Concerns of childhood in India. *Global Studies of Childhood* 2011;1:79-83.
- Fourdain S, Caron-Desrochers L, Simard MN, Provost S, Doussau A, Gagnon K, *et al.* Impacts of an interdisciplinary developmental follow-up program on neurodevelopment in congenital heart disease: The CINC study. *Front Pediatr* 2020;8:539451.
- Luinge MR, Visser-Bochane MI, Dieleman LEP, Coster FW. Towards a more family oriented and interdisciplinary screening of language development in young children: Perceptions, opinions and desires of caregivers of children with and without atypical language development. *J Dev Phys Disabil* 2019;31:863-78.
- Spittle A, Orton J, Anderson PJ, Boyd R, Doyle LW. Early developmental intervention programmes provided post hospital discharge to prevent motor and cognitive impairment in preterm infants. *Cochrane Database Syst Rev* 2015;2015:CD005495.
- Hua J, Williams GJ, Jin H, Chen J, Xu M, Zhou Y, *et al.* Early motor milestones in infancy and later motor impairments: A population-based data linkage study. *Front Psychiatry* 2022;13:809181.
- Gajewska E, Moczko J, Naczka M, Naczka A, Steinborn B, Winczewska-Wiktor A, *et al.* Crawl position depends on specific earlier motor skills. *J Clin Med* 2021;10:5605.
- Hix-Small H, Alkherainej K. Physician awareness of developmental screening and referral in the state of Kuwait. *J Dev Behav Pediatr* 2017;38:743-52.
- Schmidmaier R, Eiber S, Ebersbach R, Schiller M, Hege I, Holzer M, *et al.* Learning the facts in medical school is not enough: which factors predict successful application of procedural knowledge in a laboratory setting?. *BMC Med Educ* 2013;13:28.
- Garg P, Ha MT, Eastwood J, Harvey S, Woolfenden S, Murphy E, *et al.* Health professional perceptions regarding screening tools for developmental surveillance for children in a multicultural part of Sydney, Australia. *BMC Fam Pract* 2018;19:42.
- Hirai AH, Kogan MD, Kandasamy V, Reuland C, Bethell C. Prevalence and variation of developmental screening and surveillance in early childhood. *JAMA Pediatr* 2018;172:857-66.

23. Lakshmi NRA, Deshmukh PR, Tripathy JP, Dahake U. Prevalence and determinants of developmental delay in children of 12-36 months in the area of primary health centre, Bela, Nagpur. *Indian J Public Health* 2024;68:355-61.
24. Debata P, Kumar J, Mukhopadhyay K. Screening for language delay between 6 months and 3 years of corrected age in very low birth weight children. *Indian Pediatr* 2019;56:481-4.
25. Wiefferink K, van Beugen C, Wegener Sleswijk B, Gerrits E. Children with language delay referred to Dutch speech and hearing centres: caseload characteristics. *Int J Lang Commun Disord* 2020;55:573-82.
26. Adolph KE, Berger SE, Leo AJ. Developmental continuity? crawling, cruising, and walking. *Dev Sci* 2011;14:306-18.
27. Sices L. Use of developmental milestones in pediatric residency training and practice: Time to rethink the meaning of the mean. *J Dev Behav Pediatr* 2007;28:47-52.
28. Valadi S, Gabbard C. The effect of affordances in the home environment on children's fine- and gross motor skills. *Early Child Dev Care* 2020;190:1225-32.
29. Tran HT, Li YC, Lin HY, Lee SD, Wang PJ. Sensory processing impairments in children with developmental coordination disorder. *Children (Basel)* 2022;9:1443.
30. Hospodar CM, Hoch JE, Lee DK, Shrout PE, Adolph KE. Practice and proficiency: Factors that facilitate infant walking skill. *Dev Psychobiol* 2021;63:e22187.
31. Cole WG, Robinson SR, Adolph KE. Bouts of steps: The organization of infant exploration. *Dev Psychobiol* 2016;58:341-54.
32. Ansari MS, Sood AS, Gill JS. National infant screening for hearing program in India: Necessity, significance and justification. *Indian J Otolaryngol Head Neck Surg* 2022;74:6497-512.
33. Sahli AS. Developments of children with hearing loss according to the age of diagnosis, amplification, and training in the early childhood period. *Eur Arch Otorhinolaryngol* 2019;276:2457-63.

**How to cite this article:** Kelkar P, Malshe NS, Padbidri P. Infant and Toddler Development: An Outcomes Study of Early Detection Workshops. *J Health Allied Sci NU*. doi: 10.25259/JHS-2024-9-26-(1506)