

for all positive integers k , where c_k is a positive constant and γ is the Euler's constant. This has been established when $k=2$ or $k=3$ with specific constants $c_2 = 3/2$ and $c_3 = 17/6$ by Sitaramaiah and Subbarao.

4. Algebraic, Transcendental number theory and diophantine equations: Let K be a number field with O_K – the ring of integers. Chahal and Ram Murty show that: If $f \in O_K[x]$ takes on irreducible values infinitely often, then either f itself is irreducible or $f = l(x)p(x)$ where $l(x)$ is a linear factor and $p(x)$ is an irreducible polynomial. Some examples of the second possibility are also exhibited.

Let f be an arithmetic function, periodic in q defined by $f(n) = \pm 1$, if n is not a multiple of q and 0 otherwise. Consider the sum

$$S = \sum_{n=1}^{\infty} \frac{f(n)}{n}.$$

With certain finite number of exceptional values of q , the non-vanishing of S has been established by Saradha. It is also shown in the same article that $S \neq 0$ whenever $2\phi(q) \geq q(1 - \frac{1}{h})$, where

$$h = \max_{1 \leq i \leq r} p_i^{\alpha_i} \text{ and } q = p_1^{\alpha_1} p_2^{\alpha_2} \dots p_r^{\alpha_r}.$$

In an expository article by Waldschmidt, a theorem of Ramachandra is applied to algebraically additive functions, new consequences of this theorem are dealt in detail. For example, let E be an elliptic curve which is defined over the field of algebraic numbers and let Γ be a finitely generated subgroup of algebraic points on E . The question whether Γ is dense in $E(\mathbb{C})$ for the complex topology being dealt with, and other contributions of Ramachandra to transcendental number theory are also discussed in detail.

For any integer $\nu > 1$, let $P(\nu)$ and $\omega(\nu)$ denote the greatest prime factor of ν and the number of distinct prime divisors of ν respectively. Shorey proves that the equation

$$\frac{n(n+d) \dots (n+(j-1)d)(n+(j+1)d)}{(n+(k-1)d)} = by^2,$$

where $0 < j < k$, $d > 1$, $P(b) < k$ and b is square-free, does not hold whenever $k \in \{6, 7, 8\}$.

5. Combinatorial number theory: Let $d \geq 1$ and $n \geq 2$ be given integers. Define

$s(n, d)$ to be the least positive integer t such that any given sequence a_1, a_2, \dots, a_t (not necessarily distinct) in \mathbb{Z}^d , has a subsequence $a_{i_1}, a_{i_2}, \dots, a_{i_n}$ satisfying $a_{i_1} + a_{i_2} + \dots + a_{i_n} \equiv 0 \pmod{n}$. Erdős, Ginzburg and Ziv have proved that $s(n, 1) = 2n - 1$. Reiher has shown that $s(n, 2) = 4n - 3$. For other values of $d \geq 3$, the exact value of $s(n, d)$ is unknown. Adhikari and Rath discuss the recent result of Reiher and some generalizations of this problem. Gao and Thangadurai address a non-abelian version of this problem.

On the whole, the proceedings contain high quality research articles spreads over the vast and versatile interests of Ramachandra (it may be noted that in each of the above-mentioned areas of number theory Ramachandra has significant contributions) and hence I am sure that this volume would be a treasure to workers in the area, in the years to come.

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Children with Cerebral Palsy: A Manual for Therapists, Parents and Community Workers. Archie Hinchcliffe. SAGE Publications India Pvt Ltd, B1/11, Mohan Cooperative Industrial Area, Mathura Road, New Delhi 110 044. 2007. Second Edition. 257 pp. Price: Rs 495.

This book on cerebral palsy (CP) whose contents can be truly expected to motivate the users in their respective special areas of work concerning the disability, is highly and effectively communicative in terms of usage of language, style, format and presentation techniques, without any dilution of the technical, diagnostic, treatment and therapeutic approaches to the disability. In developing countries where there is a high correlation between poverty and incidence of CP and lack of medical facilities, the author's experiences in the Middle East and emphasis on holistic approach with a sound scientific base come across in the book as an empowering guide even to parents and community workers.

The book is divided into nine chapters. The salient features include vital analysis of transition from medical to social model of rehabilitation for persons with CP and the rationale to be proactively followed that is important for the community to mobilize resources to support persons with CP. But it is equally important that interventions based on time-tested expertise are essentially utilized if one has to maximize the potentials of children with CP and make them as independent as possible.

Chapter 1 provides a comprehensive overview of CP, a chapter to be read by every General Practitioner. Chapters 2-4 spell out the 'last words in the Bible(!)', starting from accessing the CP child to observation and analysis, assessment and therapeutic approaches, including adaptation of aspects of speech and language therapy techniques, involving eating and swallowing, etc.

Chapters on observation and analysis, provide the appropriate and positive rehabilitation intervention services which would make the goals relevant to the CP child achievable. The author's approach in dealing with major operational components of observation and analysis in detail, if well read, understood and practised by the therapist would act as the most powerful intervention programming and transdisciplinary tool in the training of parents and community workers.

The emphasis on systematic functional assessment for children with CP with the backdrop of both neurodevelopmental theory and details of guidance provided, is a boon to the therapist who has to work in locations where access to multi-disciplinary inputs is not available.

The illustrations based on the drawings can be viewed with clarity and even a parent who is not literate can easily follow the guidelines for seating, positioning, motor patterning with ease. Chapter 4 on contractures and deformities as a separate chapter helps focus on the preventable aspects of these conditions since the CP child is not born with these problems. The assessment techniques spelt out in detail regarding threatened and established contractures and technically sound therapeutic guidance have great contributory value to preventive aspects in the rehabilitation of a child with CP. Common deformities in CP are well illustrated and information on surgical intervention for CP is briefly but appropriately described in this context.

BOOK REVIEWS

Chapter 5 is valuable and important since it reveals the principles of treatment. The author has stated with clarity the principle of appropriateness level of activity relating to the present developmental level of the child for a particular function and not to the chronological age factor as a major consideration.

Incorporating the child's own activity is another principle which creates intervention in a natural tone, more normal so coordination becomes possible and the child gets motivated. Thus sensory experience is provided in a normal day-today situation, e.g. play as an important principle for treatment is well-specified.

Treatment principles for children with severe spasticity, moderate spasticity, choreoathetosis, dystonic athetosis, ataxia, hypotonia and mixed CP are provided with specified treatment procedures for each condition. The author has reminded the user that no two CP children can be alike even if they are ataxic, diplegic, etc. So the treatment procedures have to be custom-designed but cannot deviate from fundamental principles.

Chapter 6 on family-therapist partnership is highly relevant to societies in India and other developing countries. The points to consider in building this partnership from the important framework of this chapter. The author's view on family co-operation, involvement and willingness to get empowered plays a major role in the success of the rehabilitation for the child with CP. Mere professional inputs will not be adequate in achieving the goals. Multiple roles of a therapist in centres in developing countries as a medical social worker, teacher, trainer and a therapist are inevitable. The therapist's versatility contributes to the success of the programme in partnership with the families. The challenges of delivering the expertise to persons with CP has been the centre of discussion in this chapter and includes introduction to various models practised in the community, with a special mention to balance models by WHO, and the author also provides guideline techniques in building a rapport, connectivity and collaboration with the families. The main point to be noted in this chapter is to consider the parent as the main stakeholder and never to underestimate the parent's wisdom and wanting to be participatory in the approach to rehabilitation. Home interventions are well illustrated.

Chapter 7 on equipment is complete with illustrations and instructions on the

use of the equipment. The selection guide for the equipment both for the centre-based as well as home-based rehabilitation is a rich resource reference and guide. The clear-cut illustrations make it easy to design and put them together, making them functional for various locations. Major attention is given to the cost-factor; the raw materials chosen are easily available even in a small-town shopping centre. In conclusion, one must admit the information is practically oriented for countries like India, whose numbers with disabilities are large and resources to meet the needs modest.

The author's contribution to rehabilitation intervention processes has several highlights and one of the major contribution is the chapter on sensory integration. It is among the well-written texts, comprehensive, precise and provides a functional format in its content. From the definition of what is sensory integration to use of sensory integrative techniques for hyposensitivity on the one hand to hypersensitivity on the other are well described and recorded. Highlights in the chapter are activity ideas to improve vestibular, proprioceptive and tactile processing problems. Sensory processing problems specific to athetoid CP/spasticity are well focussed and are sure to provide guidance to therapists. Some of the causes are also documented. Tables on specific observations to assess sensory integration problems can be enough reason to access the manual. Principles of treatment and case studies provide a wealth of knowledge to anyone who would like to use sensory integration as a vital part of therapy for children with CP. Overall, this chapter is a well-referenced compilation of information.

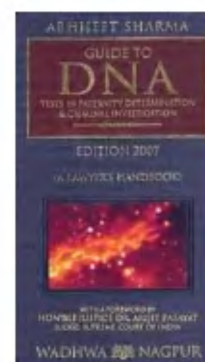
The last chapter on assessment and management of eating and drinking difficulties is a much needed aspect of the holistic approach to rehabilitation, dealing with nutrition and oral hygiene along with understanding of the problems of drinking and eating in children with CP. The author has well integrated the developmental stages and phases in normal children and the specific problems encountered by children with CP in the very areas, so relevant to physical well-being and emotional satisfaction. Assessment guidelines lay useful foundation for planning management strategies. How to manage the problems of eating, drinking and swallowing in CP children has been well explained with illustrations, helpful

to practical training in this particular area while dealing with training and demonstration with parents becomes purposeful and encouraging. A well-compiled text with usable tables and communicative visual graphics, and references of value are noteworthy features of this book.

The appendices and glossary add value to the manual. Every institution dealing with problems of CP and neurological impairment would gain by having a copy of this manual on their library shelves. Therapists should have a copy in their 'tool box', as a ready reference.

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Guide to DNA Test in Paternity Determination and Criminal Investigation (A Lawyers Handbook). Abhijeet Sharma. Wadhwa and Company, Nagpur. 2007. 1141 pp. Price: Rs 1495.

Many of the monumental discoveries in the world have been accidental and development of DNA fingerprinting technology in 1985 is no exception. When a British professor Alec John Jeffreys, working on the human myoglobin gene, noticed that a genome-derived probe from the intronic sequences uncovers multilocus polymorphic band profile, he lost no time to realize that he had hit the jackpot of the millennium in the treasure trove of biology. He refined the technique that was eventually used to nail down many criminals and exonerate the innocent ones. DNA fingerprint, also known as DNA profiling or genome individualization, has found applications in