REVIEW

ESSENTIALS OF PATIENT EDUCATION IN PAEDIATRIC PHARMACY PRACTICE

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ABSTRACT

Patient education is a necessary component of paediatric pharmacy practice. The results include a strong caring relationship that is established with patients and their families, enhanced patient compliance with good therapeutic results, and responsible medicine use as the children grow older. Drug therapy in adolescents should focus on both the acute health needs, and the issues that affect the teenager's day-to-day well-being, to which some education and counselling would be helpful. The scope of paediatric patient education has been highlighted, and ten guiding principles for teaching children and adolescents about medicines presented. Children may learn about medicines when their own questions are answered, as well as by teaching them what to do. The best way for children to learn about proper and responsible use of medicines, however, is by example of parents, caregivers and teachers, by taking medicines only when necessary, treating medicines with seriousness, and storing medicines out of the reach and sight of young children. Recommendations have been made especially to developing countries based on the UN Convention on the Rights of the Child, on the place of the use of pharmaceutical preparations in the health of the child.

1.0 INTRODUCTION

Patient education is a necessary component of good clinical practice by all pharmacists. The interactions involved build a strong caring relationship with the patient and his family, clear his anxieties, doubts and misconceptions; as well as reinforce positive behaviour towards responsible use of medicines. Usually, relevant information helps the patient to understand the identified problem(s), and the general plan for their management. This encourages compliance, since it is common knowledge, that an appreciation of the importance of the disease provides sufficient motivation for the patient to become part and parcel of his own "care team".

In paediatric practice, however, health workers often overlook or ignore this vital transfer of information, either to patients or to their parents. This is probably due to the fact that paediatric patients, in most cases, will not ask questions of their careproviders, but rather be pre-occupied with their own emotions. Once within a hospital environment, they are always anxious and afraid of a possible painful procedure, like an injection, or the prospects of having to cope with a bitter medicine, while at times, it is simply shyness. Some older children and adolescents, however may be exceptions to these norms?

Children are generally attracted to medicines that have a physical appeal to them, such as attractive colours, and especially a pleasant taste. This makes it necessary for caregivers and parents to protect young children from over consumption of medicines in this category. Pharmacists always warn, that all medicines should be stored out of sight and the reach of children.

Whether they are well or ill, children and adolescents require some education, which helps to mould healthy attitudes to medicine use. Also, like all other patients, it is their right to be so educated; and they are also naturally curious. The more children know about medicines, the better prepared they are to become active participants in the process of using medicines responsibly, as they grow older. Children and adolescents should learn about medicines from their healthcare providers, parents and teachers at school. The paediatric pharmacist occupies a unique place in the education of children, their parents, and many times, their schoolteachers and other caregivers, on medicines and their proper use.

In this paper, we shall define some terms that are relevant to paediatric pharmacy practice, and consider the scope of associated patient education. Thereafter we shall discuss some guiding principles for teaching children and adolescents (both well and ill) about medicines. We shall finally make some recommendations that will advance paediatric pharmacy practice, thereby providing a strong resource base for patient education.

2.0 DEFINITIONS AND DESCRIPTION OF RELEVANT CONCEPTS

Paediatric Pharmacy: The branch of clinical pharmacy that focuses on children and the prevention and treatment of their diseases by use of medicines.

Paediatric Pharmacist: A qualified pharmacist who, due to advanced study and/or relevant experience, is specialized in the application of medicines to the prevention and treatment of children's diseases.

Patient Education: The process of training and developing a patient's knowledge, skill or character, towards safe and responsible use of medicines. Education empowers the patient to become an active participant in his own care, rather than a passive consumer of health care services[1].

Paediatric patients: Are not a homogenous group, but are distinctly classified based primarily on age and state of maturity[2,3]:

Preterm (Premature) Babies: are infants delivered before 37 completed weeks of gestation. Their birth weight is usually less than 2.5kg, and the baby has little fat and appears thin, with a disproportionately large head. Their skin is shiny and almost transparent, with prominent vessels easily seen. The palms of the hands and soles of the feet lack creases, and there is little or no hair.

Body organs and tissues are immature, and care is required in a premature baby unit.

Babies who weigh less than 2.5kg are called low birth weight (LBW), whereas those less than 1.5kg, very low birth weight (VLBW), and those less than 1kg, extremely low birth weight (ELBW).

Post-term Babies: are those born after 42 completed weeks of gestation.

Neonates: are new-born babies up to the first 28 days after birth, and this is usually irrespective of the time in pregnancy at which birth occurs. Human pregnancy normally lasts from 37 to 42 completed weeks of gestation.

Infants: children who are less than one year old.

Children: a child is any person between birth and beginning of adolescence, usually about age 12 years old or less.

Adolescent[4]**:** a young person between the onset of puberty and full maturity. Adolescence begins at the onset of puberty, a time of enormous physical growth and personality development. The transition from childhood to adulthood is a confusing and ambiguous period for adolescents, parents and health care providers. The time of onset of puberty (ages 9 11), and manner of coping with the many physical, social and emotional changes associated with adolescence, vary from one adolescent to another. Adolescent therapy should not focus strictly on the disease(s) under treatment the issues that affect the teenager's day-to-day well being should also be considered.

Paediatric health care providers, whether pharmacists, physicians, surgeons or nurses, are required to[4]:

1. Address acute health needs;
2. Provide comprehensive health care, including: general health care; care in high-risk health areas such as sexual activity, substance abuse, depression, suicide, injuries, violence; guidance in general issues, like peer relationships, school progress, home environment and relationship with parents;
3. Provide health education, so as to produce educated consumers of health services;
4. Encourage them to be as independent as possible in their health-seeking behaviour;
5. Counsel and support parents to supervise and guide their adolescents;
6. Educate, assist, and work with other adults in the community who deal with adolescents.

3.0 THE GOALS AND SCOPE OF PAEDIATRIC PATIENT EDUCATION

The chief goals of paediatric patient education include the following:

a) To enable children to use medicines, in such a way as to derive maximum therapeutic benefit, with minimum adverse effects during treatment of their acute health needs;
b) To prepare them to become independent and responsible users of medicines when they grow up;
c) To satisfy their curiosity to know about medicines.

Paediatric patient education often involves education of the parents, especially in the very young, who are unable to appreciate instruction. Here the parents need to receive all the education required for optimum benefit to be derived from medicine use. This is especially true for neonates, infants and young children.

For older children, direct patient communication may be possible, but even here, parents will also need to be well informed, as their children could be unwilling to follow instructions. Even in adolescents, parents often need to be instructed, in order to promote compliance. This is particularly true for bitter or distasteful medicines, and in conditions that require life-long medication. Apart from caregivers and parents, children of school age (5-12 years) should be given instruction in their schools on healthy attitudes towards medicines as part of health education. Thus, this requires schoolteachers, who themselves are well informed, and had developed good habits towards medicine use.

The paediatric pharmacist, therefore, is a good resource, to influence healthy medicine use in the community, through reaching out to ill children in hospitals, their parents, caregivers, as well as school teachers, during appropriate workshops or seminars that could be organized.

4.0 GUIDING PRINCIPLES FOR TEACHING CHILDREN AND ADOLESCENTS ABOUT MEDICINES[5]

These principles were developed by the United States Pharmacopoeial Convention in 1996, and were intended to encourage activities that will help children, through adolescence, to become active participants in the process of using medicines to the best of their abilities. The principles do not specify children's ages due to the fact that children of the same age may not be identical in development, experience, and capabilities. They include the following:

1. Children, as users of medicines have a right to appropriate information about their medicines that reflects the child's health status, capabilities, and culture.
2. Children want to know. Health care providers and health educators should communicate directly with children about their medicines.
3. Children's interest in medicines should be encouraged, as they need to be taught how to ask questions of health care providers, parents and other caregivers about medicines and other therapies.
4. Children learn by example. The actions of parents and other caregivers should show children appropriate use of medicines.
5. Children, their parents, and their health care providers should negotiate the gradual transfer of responsibility for medicine use, in ways that respect parental responsibilities and the health status and capabilities of the child.
6. Children's medicine education should take into account what children want to know about medicines, as well as what health professionals think children should know.
7. Children should receive basic information about medicines and their proper use as part of school health education.
8. Children's medicine education should include information about the general use and misuse of medicines, as well as about the specific medicines the child is using.
9. Children have a right to information that will enable them to avoid poisoning through the misuse of medicines.
10. Children asked to participate in clinical trials (after parental consent) have a right to receive appropriate information to promote their understanding before consent and participation.

Medicines include all types of prescription and over the counter (OTC) medicines, herbal remedies, and nutritional supplements such as vitamins and minerals.

5.0 TEACHING CHILDREN ABOUT MEDICINES

Teaching children about medicines is

an integral part of teaching them good health practices. The more they learn about medicines, the better prepared they are, to use medicines with independent responsibility when they grow older. Children, first of all, want to have their own questions about medicines answered, for example, how the medicine will work, and most importantly, how will it taste? Secondly, they need to learn some key behaviours related to the use of medicines.

WHAT CHILDREN WANT TO KNOW ABOUT MEDICINES

The usual sources where children learn about medicines include family, friends and advertisements, especially in pharmacies, publications and on the television. Children would like to learn about medicines from trusted sources such as pharmacists, physicians, teachers or parents. Parents, teachers and caregivers should encourage children to ask their health care practitioner about medicines, as well as help them to prepare appropriate questions about:

* Taste of their medicine
* How long they need to take it
* The time when they need to take it
* How it will make them feel better
* Whether it will be pills, liquid or Injections
* Whether it will have side effects
* Why they HAVE to take it.

WHAT CHILDREN SHOULD BE TAUGHT TO DO

Children need to learn certain key behaviours about medicine use at an early stage. Paediatric pharmacists, other health care providers, parents and teachers, should all teach children to:

* Take the right medicine, at the right time, in the right amount READ THE DIRECTIONS with the child.
* Take all of the medicine prescribed even if the child feels better. This is especially important when taking antibiotics.
* Take medicines only on the recommendation and advice of qualified health care providers such as the physician and pharmacist.
* Report any unexpected side effects or reactions to an adult who can call a health care professional.
* Participate in health education activities that teach the principles of responsible medicine use.
* Tell an adult if a medicine poisoning is suspected so that a local health facility or nearby hospital can be contacted or visited as soon as possible.

6.0 CONCLUSION

Paediatric pharmacists and other health care professionals may provide education to paediatric patients directly or indirectly or to their parents or other caregivers in hospitals. This could be either as inpatients or on an outpatient basis. However, it should be emphasized that effective child education on healthful attitudes to medicine use is the overall responsibility of the entire community and should be done by the health care providers, the family and the schoolteachers.

Most importantly, all adults in the community should set examples of proper and safe medicine use to children, by taking medicines only when necessary, by treating medicines with seriousness, and by storing medicines out of the reach and sight of young children.

7.0 RECOMMENDATIONS[6,7,8]

These recommendations have been made with a prayer to:

* Stimulate and actualize interest in paediatric care (or other specialties) among pharmacists;
* Advance paediatric pharmacy practice, thereby providing a strong resource base for effective patient education; as well as
* Initiate a short chain of actions that will result into early and deliberate control of children's knowledge, attitudes and behaviour towards responsible use of medicines.

The suggestions promise to be helpful, not only in acute illnesses of children as treated in health care institutions, but also, on the long-run, to tame the current trend of drug misuse, abuse, and addiction, with their accompanying dangers, crime and other ill effects on social life. They are in agreement with the United Nations Convention on the Rights of the Child; especially articles 3,6,24,29.1(a,d) and 33, and include the following:

1. Pharmacists with interest in paediatric care should be posted to paediatrics department in all hospitals. These should provide patient-based services that promote compliance with indicated therapy; therapeutic drug monitoring (TDM); information, education and counselling (IEC) to patients, their parents or caregivers; as well as a general responsibility for overall safety and effectiveness of medicine use in paediatric patients. The goal should be to maximize benefit, and minimize harm, and costs of effective therapy.
2. Paediatric pharmacists should integrate and participate actively in monodisciplinary and multidisciplinary paediatric activities, seminars and conferences, at the departmental, national and international levels. They must challenge themselves to give and receive clinically relevant information in order to remain professionally "alive". They should also seek to upgrade their knowledge and skills through academic courses and fellowship programmes.
3. Paediatric pharmacists should cultivate a documentation and research culture. Data relating to their area of practice should be collected, collated, analyzed and interpreted purposively. Research today leads to improved patient care tomorrow.
4. Hospital libraries should be well supplied with current books and journals. Professionals should also subscribe to reputable journals of interest to them for their personal update. Also, libraries and paediatric departments should be computerized, with Internet facilities, so that practitioners do not lack information on trends and developments in paediatric care globally. This could also provide an opportunity to share relevant clinical information, research findings, as well as develop mentorships with renowned professionals of common interest elsewhere on the globe. This will directly improve practice.
5. Current knowledge gained in practice as highlighted above, should be used to train future paediatric pharmacists at postgraduate level, especially in tertiary care hospitals. This knowledge from patient care and research should form a strong basis for core patient education in hospitals and other health care institutions.
6. Apart from hospital based paediatric patient education, community pharmacists should provide a suitable environment for continuation of patient education and advice in their pharmacies, aimed at reinforcing earlier counsel and guidance on over the counter (OTC) medication.

7. For long-term prevention and control of the incidence of medicine misuse, abuse and addiction in the society, co-ordinated efforts of the Ministries of Education, Health, Information and Culture with the Pharmaceutical Society are required. Also, other people with the will and clout in the community should be involved, especially in the area of support[9]. Schoolteachers need to be updated through effective refresher courses, workshops and frequent meetings with paediatric and community pharmacists. These meetings could hold in hospitals, schools or other convenient locations in the community. They should aim to update the schoolteachers as well as review the content and methods of instruction. The overall target should be to gain an early control of children's knowledge and mould their attitudes towards responsible use of medicines when they grow up. One can best imagine the multiplier effect of this action when the children so treated become parents themselves.

8. It cannot be overemphasized that the example of parents, teachers and close family members, should provide the best influence on attitude or behaviour of children towards healthy medicine use. This way, the entire community will be gradually transformed into one with minimum of the several complex problems that could be traced to medicine abuse, misuse and addiction, after few generations. Prevention is always better and cheaper than cure. This indeed contributes towards the highest form of social and national development.

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