

Use of natural health products in children

Survey of parents in waiting rooms

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Abstract

Objective To determine how common it is for parents to give natural health products (NHPs) to their children, which NHPs are being used, why they are being used, and parents' assessments of the benefits and side effects of NHPs.

Design Survey.

Setting Newfoundland and Labrador.

Participants Parents waiting in their family doctors' offices.

Main outcome measures Parent and child demographic characteristics; pediatric chronic medical conditions affecting the children; prescribed medications, over-the-counter medications, and NHPs used by the children; why the medications and NHPs were being used, the dose, and parents' assessments of the effectiveness and side effects; and where parents had heard about the NHPs, whether they had told their physicians that the children were taking the products, and where they had obtained the products.

Results A total of 202 (53.4%) of the 378 eligible adults who were approached completed the survey. This represented 333 children. Mean (SD) age of the children was 5.1 (3.3) years. Overall, 28.7% of parents reported using nonvitamin NHPs for their children. A total of 137 children (41.1%) had taken NHPs (including vitamins); 61.1% of the NHPs being used were vitamins. The remainder fell under teas (primarily chamomile and green teas), echinacea, fish or omega-3 oils, and a large category of "other" products. These NHPs were most commonly used to improve general health, improve immunity, and prevent colds and infections. Approximately half of the parents (51.7%) believed their children had benefited from taking NHPs, and 4.4% believed their children had experienced adverse side effects. Slightly less than half of the parents (45.0%) had informed their physicians that their children were taking NHPs.

Conclusion Overall, 45.5% of parents attending physicians' offices reported using NHPs in their children. If vitamins are not included in the definition of NHPs, this rate drops to 28.7%. Parents most commonly use NHPs to maintain the general health of their children, to prevent colds, and to boost children's immune systems. About half of the parents believed the NHPs helped, very few had noticed any side effects, and approximately half had informed their physicians that they were giving their children NHPs.

EDITOR'S KEY POINTS

- This is the second in a series of articles on natural health products (NHPs) taken by children in Newfoundland and Labrador. This article complements the physician survey data in the first article by indicating exactly what parents or guardians say they administer to their children; qualitative data from parent interviews are presented in the final article.
- Almost half of the parents who completed the survey reported having given NHPs to their children. The most commonly used products were vitamins, but 28.7% of parents had given their children nonvitamin NHPs. Less than half of those who used NHPs for their children disclosed the use to their physicians.
- Although no specific safety concerns were identified in this study, the authors argue that quality of care could be enhanced if physicians asked a few exploratory questions that would open discussion about NHPs.

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Utilisation de produits de santé naturels chez l'enfant

Une enquête effectuée auprès des parents dans la salle d'attente

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Résumé

Objectif Déterminer s'il est fréquent que les parents donnent des produits de santé naturels (PSN) à leurs enfants, quels produits ils donnent et pourquoi, et ce que les parents pensent des avantages et des effets indésirables de ces produits.

Type d'étude Enquête

Contexte Terre-Neuve-et-Labrador.

Participants Les parents qui attendent au bureau de leur médecin de famille.

Principaux paramètres à l'étude Caractéristiques démographiques des parents et des enfants; conditions médicales chroniques affectant les enfants; médicaments sous prescription, médications en vente libre et PSN donnés aux enfants; raisons pour lesquelles les médicaments et les PSN étaient utilisés et à quelle dose, et évaluation que des parents de leur efficacité et de leurs effets indésirables; et comment les parents avaient entendu parler des PSN, avaient-ils dit à leur médecin que les enfants prenaient ces produits et où avaient-ils obtenu ces produits.

Résultats Un total de 202 adultes admissibles sur les 378 qui ont été approchés (53,4%) ont répondu à l'enquête, ce qui représente 333 enfants. Les enfants étaient âgés en moyenne de 5,1 ans (DS : 3,3 ans). Dans l'ensemble, 28,7% des parents ont déclaré donner des PSN autres que des vitamines à leurs enfants. Un total de 137 enfants (41,1%) avaient pris des PSN (incluant des vitamines); 61,1% des PSN utilisés étaient des vitamines. Les autres comprenaient des thés (principalement de type camomille et thé vert), des échinacées, des huiles de poisson ou d'oméga-3 et une vaste catégorie d'autres produits. Ces PSN étaient principalement utilisés pour améliorer la santé générale, stimuler l'immunité et prévenir les rhumes et les infections. Environ la moitié des parents (51,7%) croyaient que leurs enfants avaient bénéficié de la prise de PSN, tandis que 4,4% pensaient que leurs enfants avaient éprouvé certains effets indésirables. Un peu moins que la moitié des parents (45,0%) avaient dit à leur médecin que leurs enfants prenaient des PSN.

Conclusion Dans l'ensemble, 45,5% des parents visitant le bureau du médecin ont déclaré donner des PSN à leurs enfants. Si on exclut les vitamines de la définition des PSN, ce taux tombe à 28,7%. Les parents utilisaient principalement ces produits pour maintenir leurs enfants en bonne santé, prévenir les rhumes et stimuler le système immunitaire. Environ la moitié des parents croyaient que les PSN étaient utiles, très peu avaient noté des effets indésirables et environ la moitié avaient informé leur médecin qu'ils donnaient des PSN à leurs enfants.

POINTS DE REPÈRE DU RÉDACTEUR

• Cet article est le second d'une série sur les produits de santé naturels (PSN) qui sont donnés aux enfants de Terre-Neuve-et-Labrador. Il vient préciser qui, des parents ou des gardiens, administre ces produits aux enfants et ainsi compléter les données de l'enquête auprès de médecins publiée dans le premier article; ce dernier article présente aussi les données qualitatives provenant des interviews des parents.

• Presque la moitié des parents qui ont répondu à l'enquête ont déclaré avoir donné des PSN à leurs enfants. Les produits les plus souvent utilisés étaient des vitamines, mais 28,7% des parents avaient donné aux enfants des PSN autres que des vitamines. Moins de la moitié de ceux qui donnaient des PSN à leurs enfants en informaient leur médecin.

• Même si cette étude n'a pas soulevé d'inquiétudes relatives à l'innocuité des PSN, les auteurs sont d'avis qu'on pourrait améliorer la qualité des soins si les médecins posaient quelques questions exploratoires sur les PSN pour éventuellement en discuter avec les parents.

Cet article a fait l'objet d'une révision par des pairs.
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This is the second in a series of articles on natural health products (NHPs) taken by children in Newfoundland and Labrador. This article complements the physician survey data in the first article by indicating exactly what parents or guardians say they administer to their children. The survey, which was administered in family practitioner waiting rooms, not only documents NHPs given to children, but also the reasons for using such products and parents' assessments of the benefits and side effects. The study was conducted between 2007 and 2009.

Complementary and alternative medicine (CAM) is the term commonly used to describe health practices outside of conventional medicine. The use of NHPs is a component of CAM. In the United States, the 2007 National Health Interview Survey reported that approximately 4 out of 10 US adults and 1 out of 9 children had used CAM therapies in the past 12 months, with nonmineral, nonvitamin natural products being most commonly used.¹ In 2005, Health Canada reported on a country-wide survey of adults 18 years and older entitled *Baseline Natural Health Products Survey Among Consumers*.² However, they did not appear to ask the adult respondents about the use of NHPs in their children and hence provided no data relevant to the population in our study. General use of CAM in children has received some attention in the literature³⁻⁶; as well, preparation-specific and condition-specific use have been studied. Examples include CAM use in children with HIV,⁷ flax oil and vitamin C use in children with attention deficit hyperactivity disorder (ADHD),⁸ use of echinacea for the common cold,^{9,10} zinc and vitamin A for acute diarrhea,¹¹ butterbur root extract for preventing migraines,¹² CAM use in inflammatory bowel disease,¹³ and a host of different herbal remedies for asthma.¹⁴ In general, CAM therapies were most often used to treat back and neck pain and other musculoskeletal problems, head and chest colds, anxiety and stress, and attention deficit disorder or ADHD.¹

It is also important to recognize that a range of therapies and products that differ from study to study are all labeled as CAM. For example, in 2005 Concannon and Tang¹⁵ included elimination diet (cutting out sugar additives) and increased fatty acid intake as CAM; Ang et al⁷ included multivitamins, prayer, home remedies, aromatherapy, and herbal remedies; and Spigelblatt et al⁶ included chiropractic, homeopathic, naturopathic, and acupuncture treatments. Because of inconsistencies in the type and number of things that CAM entails, prevalence rates reported for CAM usage in Western societies vary enormously—from 11% to 71%. Conflicting reports have also been identified in the literature; McCann and Newell³ reported that children with chronic conditions were more likely to use CAM than healthy

children were, while Ang et al⁷ compared a group of children with HIV, a group with asthma, and a group who were well and found that the well group had the highest percentage of CAM usage. Sociodemographic factors have been shown to influence CAM usage in children, especially when conventional care is delayed owing to cost¹; people who were CAM users themselves⁵ and mothers with higher educational attainment^{1,6,16} were more likely to use CAM with their children. The National Health Interview Survey found that children whose parents used CAM were 5 times more likely to use CAM.¹ In 2010, Ashraf et al¹⁶ found that mothers were quite aware of CAM and used it for a variety of the ailments listed above.

In an editorial in 2005 on the potential dangers of the use of herbal medicines in children, Lerman referenced 2 studies that found that in up to 70% of cases parents did not disclose to physicians that their children were using NHPs.¹⁷ In 2004, Robinson and McGrail¹⁸ reported on the level of nondisclosure of CAM use by patients to their physicians. They targeted all CAM, not just NHPs, and did not specifically report on disclosure or nondisclosure of parents' use of NHPs in their children. Overall they found up to a 77% nondisclosure rate, but it is difficult to know how this relates to our study population. However, this might mean that the 5% to 10% of CAM use in children based on parent reporting^{1,4} is an underestimate.

Complementary and alternative medicine includes a broad spectrum of treatment approaches. Natural health products represent part of that spectrum. Given the diversity of the studies in scope and conclusions, we focused on the use of NHPs only, both those purchased over the counter (OTC) and those recommended or prescribed by practitioners.

METHODS

The project was approved by the Human Investigation Committee of Memorial University of Newfoundland in St John's.

Study population

Five family medicine clinics participated in the study: an urban academic family medicine clinic located in a health sciences centre, a community clinic in a low socioeconomic area on the outskirts of the city of St John's (population 200 000), 2 urban or suburban family medicine clinics in the city, and a family medicine clinic in the small town of Gander, Nfld, (population 10 000). The study did not include a clinic in downtown or inner-city St John's, nor did it include a very small rural outpost.

Adults were approached by a research assistant (RA) (N.L.C) in the waiting rooms of the participating family

medicine clinics and presented with a postcard that asked if they would be willing to complete a survey on the use of NHPs in children. If they were agreeable, they were moved to a private room or quiet area of the waiting room where the study was explained in detail and consent was obtained. Adults were eligible to participate in the study if they were 18 years of age or older and they were the parent or legal guardian of a child between 0 and 12 years of age. The RA stayed with them while they completed the questionnaire in case they had questions of clarification or in case literacy was an issue, in which case the questionnaire was presented verbally to the participant and the responses recorded by the RA.

It should be noted that the RA only approached adults who appeared to be between the ages of 18 and 60 years. Adults who were obviously elderly and unlikely to have young children were not approached.

Definition of NHPs

As a starting point, we used Health Canada's definition of *NHPs* (Box 1).¹⁹ However, we also wanted to capture folk remedies such as poultices and other products applied to the skin, as well as inhaled products such as mentholated steam for colds. Because of this we approached the study understanding *NHPs* to be products that are ingested, inhaled, or absorbed through the skin that have, or are claimed to have, health-improving or medicinal benefits, but which are not considered part of the pharmacopeia of conventional medicine. As well, when vitamins are used for purposes other than deficiency states or potential deficiency states, we consider them to be *NHPs*.

Box 1. Health Canada definition of *NHPs*

Health Canada defines *NHPs* as follows:

- Vitamins and minerals
- Herbal remedies
- Homeopathic medicines
- Traditional medicines such as traditional Chinese medicines
- Probiotics
- Other products like amino acids and essential fatty acids

NHP—natural health product.
Data from Health Canada.¹⁹

To include both Health Canada's definition and our own understanding of *NHPs*, the survey contained the definition of *NHP* shown in Box 2, in order to help parents understand the products we were inquiring about.

Questionnaire

The questionnaire contained questions about parent

Box 2. Definition of *NHPs* used in the study

We included the following in our definition of *NHPs*:

- Herbal remedies
- Homeopathic and naturopathic medicines
- Traditional medicines such as traditional Chinese medicines
- Dietary supplements
- Folk remedies
- Multivitamins and minerals
- Products like probiotics, amino acids, essential fatty acids, cod-liver oil, echinacea, and vitamin C or vitamin A for a cold*

NHP—natural health product.

*Vitamins used according to Canadian Paediatric Society recommendations (eg, vitamin D in breastfed children) or to correct a known deficiency were not considered *NHPs*.

and child demographic characteristics, pediatric chronic medical conditions affecting the child, prescribed and OTC medications, and *NHPs* used by each child. Why the prescribed and OTC medications were being used, the dose, and the parent's assessment of the effectiveness and side effects, were also explored. Similar questions were asked about *NHP* use, including reasons for use, dosage, perceived effectiveness, side effects, how they had heard about the products, whether they had told their physicians that the children were taking the products, and where they obtained the products. The questionnaire was piloted with 6 individuals to assess face and content validity.

Statistical analysis

Descriptive and summary analysis was carried out using SPSS, version 17.

RESULTS

A total of 540 adults were approached in the waiting rooms. Of these, 378 were eligible because they had children aged between 0 and 12 years. Of the eligible parents, 202 (53.4%) participated. The 176 who did not participate either refused in the waiting room or took the questionnaire home with them to complete but never returned it. Reasons for refusal were not collected.

The 202 parents who participated had a total of 333 children who were between 0 and 12 years of age. Data were provided on all 333 children.

Table 1 summarizes the characteristics of the parents who participated in the study and those of their children. Of the parents completing the questionnaire, 81.7% were mothers, 87.1% reported having 1 or 2 children, and 12.4% were single parents. The mean (SD) age of the children was 5.1 (3.3) years with no significant difference

Table 1. Demographic characteristics: A) Parent information; B) Child information.

A)	
CHARACTERISTIC	PARENTS, N (%) (N = 202)
Sex	
• Female	165 (81.7)
• Male	37 (18.3)
Relationship to child	
• Mother	165 (81.7)
• Father	37 (18.3)
• Legal guardian	0 (0.0)
No. of children aged 0-12 y	
• 1	94 (46.5)
• 2	82 (40.6)
• 3	23 (11.4)
• 4	2 (1.0)
• 5	1 (0.5)
Single parent	25 (12.4)
Ever gave child an NHP (including vitamins)	92 (45.5)
Ever gave child a nonvitamin NHP	58 (28.7)
B)	
CHARACTERISTIC	CHILDREN (N = 333)
Sex, n (%)	
• Female	170 (51.1)
• Male	163 (48.9)
Mean (SD) age, y	5.1 (3.3)
Median age, y	4.0
Taking prescribed or OTC medications, n (%)	101 (30.3)
Taking NHP (including vitamins), n (%)	137 (41.1)
Has a chronic health condition, n (%)	67 (20.1)

NHP—natural health product, OTC—over the counter.

between sexes ($P = .455$). Ninety-two of the 202 parents (45.5%) reported using NHPs (including vitamins) for their children at some point in the children's lives. Fifty-eight parents (28.7%) reported ever using nonvitamin NHPs. Of the 333 children, 137 (41.1%) were taking NHPs (including vitamins); 101 (30.3%) were taking prescribed or OTC medications; and 67 (20.1%) had chronic health conditions.

Table 2 shows the use of NHPs in children. The 137 children who took NHPs took 180 NHPs in total; 110 (61.1%) of these were vitamins. The remainder fell under teas (primarily chamomile and green teas), echinacea, fish or omega-3 oils, and a large category of "other" products. In **Table 3** we have categorized all the nonvitamin NHPs that were mentioned and the reasons given for their use.

Table 2. Parents' use of NHPs in their children: The 137 children who were taking NHPs were taking a total of 180 NHPs; 110 of these were vitamins.

CHARACTERISTICS OF NHP USE	N (%)
NHP	
• Vitamins	110 (61.1)
• Teas	7 (3.9)
• Echinacea	3 (1.7)
• Fish or omega oils	13 (7.2)
• Other	47 (26.1)
Vitamins	
• Multivitamins	89 (80.9)
• Vitamin D	16 (14.5)
• Vitamin C	5 (4.5)
Age of the child when the NHP was started	
• < 1 y	30 (16.7)
• 1-4 y	84 (46.7)
• 5-8 y	32 (17.8)
• 9-12 y	9 (5.0)
• Age not given	25 (13.9)
Reasons for using NHP	
• General health	91 (50.6)
• Prevent colds, prevent infections, boost immune system	21 (11.7)
• Skin conditions	7 (3.9)
• GI conditions	9 (5.0)
• Other	30 (16.7)
• No reason given	22 (12.1)
Informed physician of use of NHP	81 (45.0)
Experienced side effects	8 (4.4)
Noticed a benefit of taking NHP	93 (51.7)
Main source of information about NHP	
• Physician	32 (17.8)
• Family or friends	65 (36.1)
• Media	18 (10.0)
• Other	65 (36.1)
Where did you purchase the NHP?	
• Drugstore	116 (64.4)
• Natural health store	19 (10.6)
• Other	45 (25.0)
Children with a chronic health condition	85 (62.0)*
• Children who took NHPs for their chronic health conditions	7 (8.2)
• Children who took prescribed or OTC medications for their chronic health conditions	62 (72.9)

GI—gastrointestinal, NHP—natural health product, OTC—over the counter.
*Proportion of the 137 children who had taken NHPs.

Table 3. Categories and reason for use of NHPs

PRODUCT	NO. OF TIMES MENTIONED	STATED REASONS FOR USE
Folk or home remedies*		
• Boric acid in water	1	Eye infection
• Bread poultice	1	To help with infections
• Burnt flour [†]	2	Diaper rash
• Chamomile tea	2	To calm child before bed or when he or she cannot sleep
• Flax seed	1	Constipation
• Mineral oil or apricot oil	1	Dry skin
• Molasses	1	Cough
• Oatmeal	1	Eczema
• Olive oil	1	Waxy ears
• Raisins	1	Sore throat
• Salt nasal spray	1	Sinusitis
• Turn a saucer over to stop hiccups	1	Hiccups
• Vaseline [‡]	2	Chapped lips, sores or diaper rash, wetness protection
• Vicks VapoDrops and Vicks VapoRub [‡]	2	Ward off colds; cough, congestion
• Vinegar	1	To get rid of dandruff
Over-the-counter products with DINs		
• Advil (children's formulation)	1	Teething or ear infection
• Benadryl	2	Teething
• Inless paste [§]	1	Diaper rash
• Ovol Drops	1	Gas or stomach upset
Homeopathic or tissue salt preparations		
• Arnica [¶]	1	Bumps and bruises
• Calcium fluoratum	1	Emotions
• Camilia	4	Teething
• Kali phos tissue salt	1	Night fears
• Linde 39	1	Colon
• Pancreatinum 4CH	1	Not specified (but noted for symptoms associated with GI tract)
• Silicea MK	1	Emotions
• Unda 3	3	Liver
Products designated by Health Canada as NHPs		
• Acidophilus	1	To build back bacteria after antibiotic use.
• Berry DHA (fish oil, etc, flavoured for children)	1	Not specified (promoted as source of omega-3 fatty acids for the maintenance of good health and particular support, eg, "development of brain")
• Calcium supplement	1	To promote strong bones.
• Echinacea	3	Colds, build immune system
• Goji or wolf berries	1	Blood building
• Gripe water	3	Gas, pain, stomach upset
• Ivy extract cough medicine	1	Congestion
• Omega-6 fatty acid; omega-3-6-9 capsules	13	General health; to help ADHD; good for brain development
• Oragel	1	Teething
• Skin lotion oil	1	No use listed for this unnamed brand [#]

ADHD—attention deficit hyperactivity disorder, DHA—docosahexaenoic acid, DIN—drug identification number, GI—gastrointestinal, HM—homeopathic medicine, NHP—natural health product, NPN—natural product number, OTC—over the counter.

*Folk and traditional home remedies include remedies prepared at home, some with ingredients purchased as groceries (once called *kitchen remedies*), as well as a few OTC preparations that, by dint of generations of use, are widely viewed as home medicines and not NHPs.

[†]We assumed that the respondent listing *Robin Hood Flour*, albeit without a use given, likely intended it for this purpose—a relatively well-known practice in Newfoundland.

[‡]Vicks products have Health Canada NPNs, while Vaseline has a DIN.

[§]This was not identified but was likely zinc paste (some zinc oxide products for diaper rash have NPNs).

^{||}Categorized as NHPs (designated *DIN-HM*) by Health Canada. These are apparently OTC preparations, not prescribed according to classical homeopathic principles.

[¶]Also marketed as a non-homeopathic preparation.

[#]Although this is unlikely to have been an NHP, many toothpastes, antiperspirants, shampoos, facial products, and other products are classified as NHPs.

Parents gave their children NHPs for various reasons. The main reason identified was to improve or maintain their children's general health (50.6%), and this was the primary purpose for giving vitamins. Another reason for NHP use was to prevent colds, prevent infections, and generally boost the immune system (11.7%). For this multivitamins, vitamin C, and echinacea featured prominently.

Approximately half of the parents believed their children had benefited from taking NHPs and only 4.4% believed their children had experienced adverse side effects of NHPs. Approximately half of the parents had informed their physicians that the children were taking NHPs.

DISCUSSION

Just less than half (45.5%) of the Newfoundland parents surveyed reported using NHPs in their children; when vitamins were excluded from the definition of *NHP*, the number dropped to 28.7% of parents. Other studies have recorded rates of use of 11% to 71%; unfortunately, the diversity of those investigations makes comparisons difficult. However, some studies might be helpful to physicians when they face parents who are giving herbal products to children suffering from HIV,⁷ ADHD,⁸ the common cold,^{9,10} acute diarrhea,¹¹ migraines,¹² and asthma.¹⁴

Vitamins, as indicated, are by far the most widely used NHPs among Newfoundland children. The principal reason for their use is to maintain children's general health, which is supported by the high percentage of multivitamins taken (80.9% of all vitamin preparations). Specifically, vitamin C (sometimes with echinacea) was administered to prevent colds and infections, and to boost the immune system, while vitamin D, following local publicity, was used to counteract the lack of sunshine. Vitamins accounted for 61.1% of the products used.

The range of nonvitamin products (**Table 3**)—even though many were reported by 1 parent only—is striking. The folk and home remedies fit with a well documented, long-standing tradition in Newfoundland, with remnants still practised, some encouraged by information, often as “Granny's remedies,” available on the Internet. No potentially serious safety concerns are apparent, from these or the other items reported. However, we do not know how frequently preparations with Health Canada drug identification numbers—for instance, Advil (noted to be used for chronic ear infection) and Benadryl—were used. Nor whether, say, the homeopathic preparations were administered as “alternative” treatments that might have led to delays in visiting physicians.

Some physicians might believe that the lack of obvious safety concerns justifies taking a back-seat approach to NHPs, or at least not being proactive with parents. Leaving aside the value of discussing NHPs as a way to develop rapport with parents, such a nonproactive approach naturally limits chances of spotting potential safety issues, including incompatibilities with prescription drugs, many of which are well documented. It is notable that of the 180 products that parents said they used in their children, they believed their children experienced adverse effects in only 8 cases (4.4%). However, parents did not elaborate on these adverse effects, even though they were asked to do so in the survey. Of the 180 products used, parents believed there was some benefit in 92 cases (51.7%); this was primarily a sense that the children were healthier and caught fewer colds and other illnesses compared with when they were not taking the NHPs. Parents who believed their children experienced benefits also mentioned that NHP use resulted in relief of the symptoms such as rashes, pain, and anxiety that had led to the use of those products.

The diversity of products mentioned by parents, encouraged by our broad definition, hints that parents might need advice on OTC medicines and NHPs. It is noteworthy that 35.6% of purchases were not from pharmacies. Even there, selection from self-service displays can be confusing in part because products with different Health Canada designations can be found side by side, namely products with drug identification numbers, natural product numbers, and homeopathic preparation numbers. We do not know, for example, whether the *Oragel* noted by one parent was the homeopathic formulation or one with 20% benzocaine that carries the warning about allergic responses to “caine” products; or whether the omega-3-6-9 combination used was a children's formulation or a dosage-age combination more likely to occasion side effects.

Limitations

Although we do not have reasons why 46.6% of those approached with the questionnaire did not agree to participate, such a limitation could be in line with our cautionary comments. Perhaps some, even with anonymity, did not wish to admit to usage in case it was viewed as questioning their children's care. Moreover, we did not survey patients of rural physicians or of downtown practices, where the demographic characteristics and socioeconomic status of the clinic population might be different. Another limitation is that we recruited through family physicians' offices; perhaps parents who use NHPs for their children attend physicians' offices less often.

Conclusion

About 46% of parents attending physicians' offices report using NHPs in their children. If vitamins are not included in the definition of NHP, this rate drops to 28.7%. Parents most commonly use NHPs to maintain the general health of their children, to prevent colds, and to boost children's immune systems. About half of the parents believed the NHPs had helped, very few had noticed any side effects, and approximately half had informed their physicians that they were giving their children NHPs.

Although we might have underestimated the use of NHPs, the survey offers reminders not only of a diversity of self-treatment practices compounded with folk remedies, but also that preparations on open shelves offer a confusing variety. Our view is that, despite the lack of specific safety concerns in this Newfoundland study, quality of care can be enhanced by a few exploratory questions that could expose a side effect, explain a persistent symptom, or reveal that an NHP did not have a Health Canada product number of some sort (and therefore no Health Canada evaluation), which is more likely when a product is purchased via the Internet.

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Contributors

All authors contributed to the concept and design of the study; data gathering, analysis, and interpretation; and preparing the manuscript for submission.

Competing interests

None declared

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