

Needs for CME in geriatrics

Part 1: Perceptions of patients and community informants

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OBJECTIVE To describe the needs of physicians for continuing education in geriatrics as perceived by patients and community informants.

DESIGN Cross-sectional survey by mail and in-person interviews.

SETTING Organizations working with the elderly in the community and patients in a primary care population in Calgary.

PARTICIPANTS Key informants working with the elderly in the community, including managers and providers of physical, psychosocial, educational, or mental health services to the elderly, and the first two geriatric patients visiting physicians after telephone contact from study investigators were surveyed. Twenty-five of 27 key community informants and 32 of 61 geriatric patients responded.

MAIN OUTCOME MEASURES Potential topics for continuing medical education.

RESULTS The 10 most frequently identified topics were communication, time management, attitudes to the elderly, medication, continuity of care, mental health, medical management of complicated cases, knowledge of community resources, health promotion, and compassion. Patients were more concerned than key informants about the process of care. Key informants were concerned about the technical aspects of care.

CONCLUSIONS The process of care as well as technical aspects of care must be addressed in continuing education in geriatrics for physicians.

OBJECTIF Décrire les besoins de formation médicale continue des médecins dans le domaine de la gériatrie à partir des perceptions des patients et des informateurs communautaires.

CONCEPTION Enquête transversale par la poste et entrevues individuelles.

CONTEXTE Organismes oeuvrant auprès des personnes âgées de la communauté et patients d'une population de soins de première ligne à Calgary.

PARTICIPANTS Principaux informateurs oeuvrant auprès des personnes âgées de la communauté, notamment des gestionnaires et des personnes impliquées dans la prestation de services physiques, psychosociaux, éducatifs et de santé mentale auprès des personnes âgées ainsi que les deux premiers patients gériatriques ayant consulté les médecins après un contact téléphonique par les chercheurs impliqués dans l'enquête. Vingt-cinq des 27 principaux informateurs communautaires et 32 des 61 patients gériatriques ont répondu.

PRINCIPALES MESURES DES RÉSULTATS Recherche de thèmes potentiels de formation médicale continue.

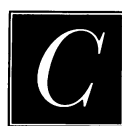
RÉSULTATS Les 10 thèmes les plus fréquemment identifiés furent : communication, gestion du temps, attitudes envers les personnes âgées, médication, continuité des soins, santé mentale, traitement médical des cas compliqués, connaissance des ressources communautaires, promotion de la santé et compassion. Les patients se sont dits plus préoccupés du processus des soins que les principaux informateurs. Ces derniers étaient davantage préoccupés par les aspects techniques des soins.

CONCLUSIONS La formation médicale continue des médecins en soins gériatriques doit inclure le processus et les aspects techniques des soins.

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CONTINUING MEDICAL EDUCATION (CME) is important for providing good-quality care in geriatrics, as it is in other aspects of medicine. Effective education must be based

upon adequate assessment of educational needs.^{1,2} However, the types of assessment done in geriatrics have been methodologically limited and could have missed important needs.

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Surveys of practising physicians and of experts in geriatrics have commonly been employed in assessing CME needs.³ Such surveys have provided important information, yet doctors are often unaware of their own deficiencies and therefore unable to identify their educational needs.⁴ Patients and other community stakeholders can have valuable input into CME needs assessments and can provide information for program planners. Little has been done in this area with respect to geriatrics. This paper describes CME needs of physicians as perceived by community stakeholders and geriatric patients themselves.

METHODS

The needs for physician education in geriatrics were sought by administering questionnaires to key informants and patients of family physicians. Community informants were surveyed by mail; personal interviews were conducted with patients. The study protocol was reviewed and approved by the University of Calgary's Committee on Medical Ethics.

Key informants

The key informants were persons working with the elderly in the community, including managers and providers of physical, psychosocial, educational, or mental health services. Names were obtained from established lists of informants used for geriatric programs in Calgary. The sample size for each category of informant was based on the work of Sudman and Bradburn⁵ and of McKillip,⁶ who state that three to five informants from each category of expertise is adequate.

Seventeen persons were identified from lists of advisors, managers, and committee members of the Senior Advisory Council for Alberta, the Southern Alberta Regional Geriatric Program, the Community Advisory Committee for the Southern Alberta Regional Geriatric Program, and the Retired Senior Citizen's Programs of the City of Calgary. Five home care nurses and five community health nurses were randomly selected from the 165 nurses employed by Calgary Health Services (the local public health authority).

An anonymous questionnaire with prepaid addressed envelope was mailed to the informants, along with a covering letter that explained the purpose of the study. A reminder letter was sent 21 days after the first mailing.

The questionnaire included open- and close-ended questions. The open-ended questions asked respondents to list and discuss five areas in which they perceived physicians needed education. Respondents also ranked these by need (1 = highest). The close-ended questions consisted of a list of 12 topics that had been identified in the geriatrics and CME literature as educational needs.⁷⁻⁹ Respondents were asked to rate doctors' knowledge, management, and attitudes on these topics as "adequate," "inadequate," and "don't know." The questionnaire was pretested on experts in nursing, CME, and health care research.

Geriatric patients

Patients were recruited from randomly selected family physicians practising in the city of Calgary. A 10% random sample of doctors listed in the 1992 *Calgary Physician Directory* published by the Calgary Medical Society was sent a letter explaining the study. Seven to 10 days later, the physicians were telephoned and asked to consent to an interview and to recruit geriatric patients for the study. Doctors who refused were asked to answer five questions on the telephone in order to assess how representative were the practices from which the patients were sampled (number of years in practice, age, percentage of practice that was geriatrics, whether they had patients in nursing homes, and whether they had hospital privileges). Physicians were asked to explain the study to the first two geriatric patients visiting their offices after the telephone contact with the investigator and to give them a package that included a description of the study and stamped reply cards.

Consenting patients who mailed the completed reply cards to the investigator were telephoned and arrangements made for a structured in-home interview, lasting a maximum of 30 minutes. Interviews were conducted by the investigator or a trained research assistant and were tape-recorded. Patients were assured that the information was

confidential. The first five interviews and every eighth interview done by the research assistant were observed by one of the investigators (L.R.P.) to ensure standardization of the interview process.

The structured interview comprised questions and tasks identical to the mailed questionnaire sent to community informants, with the addition of some sociodemographic and health service use questions. The questionnaire was pretested on five volunteer patients before use.

Data analysis

Data from patients and from key informants were analyzed separately. Frequencies were calculated for descriptive variables. Responses to the open-ended questions were transcribed verbatim and grouped into major categories of need by content. Respondents ranked each identified need with a score from 1 (needing little education) to 5 (requiring more education); an importance score for each need could be calculated by summing the scores. For the close-ended questions, the number of responses in each category was counted.

The characteristics of respondent and nonrespondent physicians were compared using χ^2 and *t* test statistics.

RESULTS

Key informants

Response and respondents. Questionnaires were completed by 25 of 27 key community informants. On average, they had worked with the elderly for 12 years (range 2 to 35 years).

Perceptions of CME need. Data from open-ended questions were explored to determine whether responses from program managers differed substantively from those of nurses. As no substantive differences were found, the data were combined. Topics identified are presented in *Table 1*. Respondents' detailed comments on the 10 highest-priority educational needs are summarized below.

Medication: Physicians' knowledge about adjusting dosage for age, potential drug interactions, and side effects were considered especially

Table 1. Educational needs identified by key community informants

NEED	N (N = 24)	IMPORTANCE SCORE
Medication	22	86.0
Mental health problems	11	42.0
Medical management	9	28.0
Community resources	14	25.5
Health promotion	11	25.0
Communication with patients	7	22.5
Dementia	7	20.5
Attitude toward the elderly	6	18.5
Psychosocial assessment	6	16.5
Geriatric assessment	3	14.0
Palliative care	5	12.5
Rehabilitation	4	9.0
Team care	7	8.0
Aging process	4	7.0
Substance abuse	3	7.0
Incontinence	3	6.0
Elder abuse	3	5.0
Osteoarthritis	2	3.5
Foot care	1	3.0
Sexuality	3	2.5

important (n = 9). Respondents thought that medications are overprescribed (n = 7), that doctors were unaware of medications obtained from other sources (n = 4), and that physicians should educate patients about the purposes and potential side effects of medications and about drug interactions (n = 5).

Mental health problems: Mental health problems, particularly depression, delirium, and loneliness, are often overlooked and undertreated (n = 7). Caregivers, including family members, should be educated to recognize and deal with these problems (n = 3). Medication is offered instead of

Table 2. How community informants (n = 24) and patients (n = 32) rated physicians' education in specific geriatric areas

AREA	ADEQUATE EDUCATION				INADEQUATE EDUCATION				DON'T KNOW			
	PATIENTS		KEY INFORMANTS		PATIENTS		KEY INFORMANTS		PATIENTS		KEY INFORMANTS	
	N	%	N	%	N	%	N	%	N	%	N	%
DEMENTIA												
Knowledge	2	6.3	6	24.0	6	18.8	15	62.5	24	75.0	3	12.5
Management	2	6.3	2	8.3	3	9.4	18	75.0	27	84.4	4	16.7
Attitude	1	3.1	3	12.5	3	9.4	16	66.7	28	87.5	5	20.8
INCONTINENCE												
Knowledge	4	12.5	8	33.3	7	21.9	12	50.0	21	65.5	4	16.7
Management	3	9.4	5	20.8	6	18.8	17	70.8	32	71.9	2	8.3
Attitude	3	9.4	6	25.0	5	15.6	14	58.3	24	25.0	4	16.7
STROKE												
Knowledge	15	46.9	17	70.8	3	9.4	4	16.7	14	43.8	3	12.5
Management	13	40.6	13	54.2	2	6.3	8	33.3	17	53.1	3	12.5
Attitude	12	37.5	10	41.7	0	0	8	33.3	20	62.5	6	25.0
FALLS												
Knowledge	5	15.6	11	45.8	8	25.0	8	33.3	19	59.4	5	20.8
Management	7	12.9	5	20.8	6	18.8	14	58.4	19	59.4	5	20.8
Attitude	7	12.9	5	20.8	5	15.6	13	54.2	20	62.5	6	25.0
MEDICATION												
Knowledge	17	53.1	4	16.7	12	37.5	18	75.0	3	9.4	2	8.3
Management	13	40.6	0	0	16	50.0	21	91.3	3	9.4	2	8.7
Attitude	15	46.9	2	8.3	15	46.9	18	75.0	2	6.3	4	16.7
DEPRESSION												
Knowledge	5	15.6	4	16.7	14	43.8	20	83.3	13	40.6	0	0
Management	3	9.4	2	8.3	12	37.5	22	91.7	17	53.1	0	0
Attitude	7	12.9	1	4.3	7	12.9	19	79.2	18	56.3	4	16.7
ALCOHOL ABUSE												
Knowledge	9	28.1	8	34.8	3	9.4	12	52.2	20	62.5	3	13.0
Management	4	12.5	4	17.4	4	12.5	17	73.9	24	75.0	2	8.7
Attitude	5	15.6	4	17.4	4	12.5	14	60.9	23	71.9	5	21.7
DEATH AND DYING												
Knowledge	10	31.3	5	12.7	8	25.0	13	56.5	14	43.8	5	21.7
Management	7	12.9	3	13.0	8	25.0	16	69.6	17	53.1	4	17.4
Attitude	9	28.1	4	17.4	8	25.0	12	52.2	15	46.9	7	30.4
SEXUAL PROBLEMS												
Knowledge	3	9.4	3	13.0	3	9.4	11	47.8	26	81.3	9	39.1
Management	2	6.3	0	0	2	6.3	14	60.9	28	87.5	9	39.1
Attitude	2	6.3	1	4.3	2	6.3	12	56.5	28	87.5	9	39.1
ELDER ABUSE												
Knowledge	1	3.1	1	4.3	8	25.0	15	65.2	23	71.9	7	30.4
Management	2	6.3	0	0	7	12.9	16	69.6	23	71.9	7	30.4
Attitude	4	12.5	2	8.7	4	12.5	12	52.2	24	75.0	9	39.1
COMMUNICATION												
Knowledge	20	62.5	5	20.0	12	37.5	17	68.0	0	0	1	4.3
Skills	18	56.3	3	13.0	14	43.8	18	78.3	0	0	2	8.7
Attitude	17	53.1	2	8.7	13	40.6	18	78.3	2	6.3	3	13.0
COMMUNITY RESOURCES												
Knowledge	12	37.5	1	4.3	11	34.4	21	91.3	9	28.1	1	4.3
Use	12	37.5	1	4.3	9	28.1	21	91.3	11	34.4	1	4.3
Attitude	15	46.9	4	17.4	7	12.9	13	56.5	10	31.0	6	26.1

counseling (n = 1). Insufficient time is allotted for addressing mental health (n = 4).

Medical management: Physicians need more skills to treat medically complicated cases (n = 2). They need to weigh the risks and benefits of various treatments (n = 1) and offer nonpharmaceutical alternatives (n = 1). Specific geriatric conditions should be recognized and treated (n = 1). Physicians need to teach patients how to live with chronic disease (n = 1).

Community resources: Physicians need to be aware of the variety of community resources for the elderly (n = 8) and to connect patients and their families with appropriate resources in a timely fashion. Often they do not recognize that these supports are required (n = 2). Appropriate referrals and team collaboration are needed (n = 3).

Health promotion: Health promotion needs to be emphasized, particularly adequate nutrition and physical fitness (n = 7). Education about preventing such events as heart disease, osteoporosis, and falls is required (n = 3). Two respondents suggested a shift to a wellness model (n = 2).

Communication: Improved communication with elderly patients is important. Insufficient time is given to their concerns (n = 4); concerns are not validated, and questions from patients are discouraged (n = 3).

Dementia: Often the diagnosis is missed or patients are labeled "demented" without considering other diagnoses (n = 2). The medical and behavioural problems of demented patients are poorly managed (n = 2). There is a tendency to attribute all the symptoms to dementia (n = 1). Caregivers as well as patients must be educated and be linked to appropriate community resources (n = 3).

Attitudes: Therapeutic nihilism influences treatment of many problems of the elderly (n = 2). Many problems are attributed to age rather than disease. Consequently, treatment and investigation are neglected (n = 4). Physicians do not take adequate time to listen to the complaints of elderly patients, or do not take these complaints seriously (n = 2). Physicians need to respect their patients and involve them in decisions about their treatment (n = 2).

Psychosocial assessment: Physicians need to be aware of patients' living situations and their relationships (n = 2). Physicians need to be able to assess the family unit as a whole and its impact on caregivers as well as patients (n = 4).

Geriatric assessment: Acute care facilities and geriatric assessment and rehabilitation services should be used appropriately (n = 2). It is important to determine the role of functional and mental status assessment in the elderly (n = 2).

Close-ended questions. Of 25 respondents, 24 evaluated doctors' knowledge of, management of, and attitudes toward 12 specific topics relevant to geriatrics (Table 2). With the exception of stroke, most respondents perceived physicians to have inadequate knowledge of all topics. On four topics, however, more than 20% of respondents perceived that they had insufficient data to evaluate doctors' knowledge: falls (20.8%), issues around dying (21.7%), sexual problems (39.1%), and elder abuse (30.4%). Respondents had even more difficulty assessing physician attitudes than assessing physician knowledge: for eight topics at least 20% of respondents responded "don't know."

Patient respondents

Response and respondents. Thirty-one of the 60 randomly selected community physicians (52%) agreed to approach two patients each for the study. These physicians were similar in average age (46 years), sex (70% vs 76% male), and number of years in practice (17 vs 22) to physicians who refused to recruit patients. However, one third of participating physicians characterized their practices as including 25% or more geriatric patients compared with 10% of non-participants. Participants were also more likely to have hospital privileges (77% vs 48%) and to see patients in nursing homes (70% vs 21%) than were non-participants. The most common reason for refusal was lack of time or interest in the study.

Thirty-seven patients returned the invitation cards. Of these, four declined the interview and one patient died before the interview date. This represents a 52% (32/61) response rate.

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Table 3. Educational needs identified by geriatric patients

NEED	N (N = 32)	IMPORTANCE SCORE
Communication	28	110
Time management	26	74
Ageism	17	53
Medication	12	39
Continuity of care	12	38
Compassion	7	36
Home visits	13	23
Functional disability	4	17
Community resources	3	10
Death and dying	4	10
Nutrition	1	3
Alternative healing	1	4
Specific diseases	5	1

The average age of patients was 77.5 years (range 65 to 93). Eleven (34.4%) were male; 21 (65.6%) were female. The average number of physicians that patients had seen during the last 5 years was 4.7 (range 1 to 10).

Perceptions of CME need. Needs elicited from patients by the open-ended questions are listed in Table 3. Details of patient comments are provided for the 10 needs that received the highest ratings. Specific diseases were rarely mentioned. When a disease was mentioned, it was a disease (including diabetes, stroke, Parkinson's disease, manic-depressive disease, arthritis, and hypertension) with which patients had experienced some personal frustration.

Communication: Patients wanted explanations of disease, investigations, and the risks and benefits of treatment in clear and simple language (n = 14). Physicians are perceived as not really listening to or answering the questions asked by patients (n = 12). Patients also expect physicians to look beyond the surface when dealing with complaints (n = 3) and to be honest when presenting results (n = 3).

Time management: Physicians appear often to be overbooked and behind schedule, resulting in excessive waits in the office (n = 10). Consultations were perceived to be rushed and to have insufficient time to address complaints (n = 14).

Ageism: Complaints were perceived to be brushed off and attributed to aging (n = 17): "It's just your age."

Medication: Issues pertaining to medications were too many medications (n = 11), prescribing medications that are too strong (n = 5), prescribing medication for every ailment (n = 3), not explaining the purpose of medication (n = 11), not warning about side effects and drug interactions (n = 4), and not communicating with the pharmacist (n = 3).

Continuity and coordination of care: Follow-up care and notification of the results of investigations was expected (n = 7). Doctors are expected to communicate with each other about patients (n = 5). Patients expect to be attended by the same physician in the hospital as in the community (n = 3).

Compassion: Some physicians appeared uncaring or lacking in compassion for the elderly (n = 7), and service was perceived to be impersonal (n = 3). Doctors do not attempt to understand the living and personal situations of patients (n = 3).

Home visits: More home visits would be beneficial (n = 7). Home visits would allow physicians to assess patients' problems in context and better understand their living and family situations (n = 3). This was particularly important for frail patients who were not well enough to go to a physician's office, but not sick enough to go to an emergency department (n = 4).

Functional disability: Specific assessment of memory (n = 1), reading ability (n = 1), balance (n = 1), and ambulation (n = 1) were mentioned.

Community resources: Some physicians are not aware of all community resources available for the elderly (n = 3). Other physicians do not inform patients of available resources (n = 2).

Issues surrounding death: Physicians avoid serious discussions about death (n = 4). Discussion about living wills and euthanasia is required (n = 4). Families need to be prepared for and assisted with the death of a member (n = 2). A spiritual dimension is needed (n = 2).

Rating of geriatric topics. Patients rated physicians' needs on the same list of geriatric topics as community informants (*Table 2*). In six of the 12 subject areas, more than 60% of patients stated that they did not know enough to assess physicians' educational needs.

DISCUSSION

Data highlighted both similarities and differences in CME needs perceived by key informants and patients. Key informants identified needs in traditional content areas of medical care, such as medication use and medical management of geriatric conditions. These needs have been identified by other researchers.^{7,9-12} From the perspective of key informants, however, physicians appear to be inadequate in most areas of geriatrics. Irrespective of whether this perception is correct, more effort will have to be directed to demonstrating physician competence in geriatrics.

Key informants also identified issues, such as health promotion and use of community resources, that are not commonly identified in needs assessments that obtain data only from doctors. Elderly patients in this study, or in other patient surveys, did not identify a need for health promotion education as an issue.^{13,14} Key informants and patients appear to differ in their perceptions of appropriate roles for physicians in providing health care.

Patients' perspectives about physicians' needs added a different dimension to the study. Patients focused on how medical care was delivered or the process of care, rather than the content of the care. Concerns about communication, physician attitudes, continuity of care, waiting times, and amount of time spent with patients have been identified in other studies.¹³⁻¹⁷

Patients had difficulty assessing doctors' competence in the technical aspects of care (content). Patients rarely mentioned specific health conditions and their management as a concern. Even when given a close-ended list of conditions, such as incontinence, dementia, and sexual problems, two thirds of patients indicated that they did not know whether doctors were

deficient in knowledge or management skill. The lack of knowledge exhibited by the sample in this regard could be due to the lack of patient experience in these areas. It is conceivable that patients affected by a particular condition are able to better assess the technical competence of doctors for that condition. However, this finding does highlight a limitation of using community informants and patients in CME needs assessment.

Identification of attitudinal and process needs as well as content needs for CME affirms the importance of using a variety of educational methods in CME. Communication skills might be improved through role playing with audio and video feedback.¹⁸ Changing attitudes is more difficult, and might be achieved by providing physicians with positive experiences while managing geriatric patients.^{19,20} In-depth geriatric traineeships or multiple workshops using real or simulated patients would likely be useful. Teamwork and community resources are probably also best developed by actually working in multidisciplinary teams with real or simulated patients.

The validity of the needs identified in this study should be considered. Are these true needs, ie, necessary and essential for us to address, or are they desires or wants?²¹ One way to assess these needs is by considering them in relation to their potential health outcomes. For some needs, such as education about medications, mental health issues, and medical management, a connection with better health outcomes can be envisioned or has been measured. For other needs, such as being more compassionate, providing continuity of care, and taking more time with patients, the connection with better health outcomes is not as obvious. If an important outcome is patient or customer satisfaction, then these needs are relevant.

Physicians often feel uncomfortable with a consumer model of their relationships with patients. However, many of the services that physicians currently provide, such as reassurance, validation, and life-skill counseling, fall outside a strict diagnosis-treatment model. These services depend on the quality of the relationship and on communication between physician and patient. If

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physicians are to continue to practise medicine with a holistic and patient-centred focus, needs related to the delivery of care must be addressed.

Limitations

This was a study of the perceived needs of doctors for CME, and not a study of patient satisfaction with medical care. Patients were asked to identify areas in which physicians needed more education with respect to the elderly. They were not asked to evaluate the present level of care that they were receiving. While patients were critical of physicians in general, they often qualified their remarks with positive statements about their own physicians.

Bias is also a concern. Selection bias among community informants was minimized by using a variety of sources as sampling frames and ensuring broad representation from the major groups who provide services to the elderly. Response rates were excellent. There is also internal consistency between issues identified by open-ended questions and ratings assigned to the topics presented in the close-ended checklists.

The low response rate from physicians and patients is troublesome, even though such response rates are common.^{7,22,23} This undoubtedly led to selection bias. Patients who participated in this study came from practices that had more geriatric patients and had physicians who provided more care in hospital and long-term care settings. Implications of this bias, however, are twofold. The findings of the present study are not generalizable to doctors generally, but could be generalizable to physicians who see a large proportion of geriatric patients. These are the doctors for whom CME in geriatrics is most appropriate.

There was a potential for physicians to be biased in their selection of patients for the study. They might have been expected to select satisfied patients. Despite this potential, patients' opinions were remarkably consistent from practice to practice and were often critical of physicians. Patients' responses in this study were also consistent with responses in other studies.

Conclusion

Despite the limitations of this study, the community needs survey emphasizes the importance of CME in geriatrics. There is a perception that important areas of geriatric medicine, such as pharmacology, medical management, and mental health issues, still need to be addressed. More importantly, however, from patients' perspectives, the process by which medical care is delivered to elderly persons needs to be improved. This need will require more innovative CME approaches in which physicians acquire new skill sets as well as knowledge. ■

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DDAVP* NASAL SOLUTION

Desmopressin Acetate Intranasal Solution

THERAPEUTIC CLASSIFICATION

Antidiuretic

INDICATIONS

Diabetes Insipidus
DDAVP* (desmopressin acetate) is indicated for the management of vasopressin sensitive central diabetes insipidus and for the control of temporary polyuria and polydipsia following head trauma, hypophysectomy or surgery in the pituitary region.

Nocturnal Enuresis

DDAVP* (desmopressin acetate) is indicated in the short-term management of nocturnal enuresis in patients 5 years of age and older who have normal ability to concentrate urine. DDAVP* should be used in conjunction with non-medical therapy such as motivational counselling and bladder exercises.

CONTRAINDICATIONS

Hypersensitivity to desmopressin acetate or to any of the constituents.

Because of the risk of platelet aggregation and thrombocytopenia, DDAVP* should not be used in patients with type IIB or platelet-type (pseudo) von Willebrand's disease.

WARNINGS

For intranasal use only. DDAVP* (desmopressin acetate) is not effective in controlling polyuria caused by renal disease, nephrogenic diabetes insipidus, psychogenic diabetes insipidus, hypokalemia or hypercalcemia.

Fluid intake should be adjusted in order to reduce the possibility of water retention and hyponatremia especially in very young and elderly patients (see Dosage and Administration). Particular attention should be paid to the risk of an extreme decrease in plasma osmolality and resulting seizures in young children.

Changes in the nasal mucosa resulting from rhinitis, scarring, edema or other disease may cause erratic, unreliable absorption in which case intranasal DDAVP* should not be used. In the case of temporary rhinitis, consideration should be given to using an injectable form of desmopressin, until the nasal mucosa returns to normal.

PRECAUTIONS

General
DDAVP* (desmopressin acetate) at high dosage (40 µg or more) has very occasionally produced a slight elevation of blood pressure, which disappeared with a reduction in dosage. The drug should be used with caution in patients with coronary artery insufficiency and/or hypertensive cardiovascular disease because of possible tachycardia and changes in blood pressure.

In the control of diabetes insipidus, the lowest effective dose should be used and the effective dosage, as determined by urine volume and osmolality and, in some cases, plasma osmolality, should be assessed periodically.

DDAVP* should not be administered to dehydrated patients until water balance has been adequately restored.

Desmopressin should be used with caution in patients with cystic fibrosis because these patients are prone to hyponatremia.

Children and geriatric patients should be closely observed for possible water retention due to over ingestion of fluids. When fluid intake is not excessive, there is little danger of water intoxication and hyponatremia with the usual intranasal doses of desmopressin used to control diabetes insipidus. Fluid intake should be carefully adjusted to prevent overhydration.

There are reports of changes in response over time, usually when the drug has been administered for periods longer than 6 months. Some patients may show decreased responsiveness, others a shortened duration of effect. There is no evidence that this effect is due to the development of binding antibodies, but may be due to local inactivation of the peptide.

For control of nocturnal enuresis a restricted fluid intake is recommended a few hours before administration.

Drug Interactions

Clofibrate, chlorpropamide and carbamazepine may potentiate the antidiuretic activity of desmopressin while demeclocycline, lithium and norepinephrine may decrease its activity.

Although the pressor activity of DDAVP* is

very low compared with the antidiuretic activity, use of large doses of DDAVP* with other pressor agents should be done only with careful patient monitoring.

Pregnancy

No controlled studies in pregnant women have been carried out. DDAVP* in antidiuretic doses has no uterotropic action, but the physician should weigh possible therapeutic advantages against potential risks in each case.

Nursing Mothers

There have been no controlled studies in nursing mothers.

Pediatric Use

DDAVP* (desmopressin acetate) has been used in children with diabetes insipidus. The dose must be individually adjusted to the patient with attention in the very young to the danger of an extreme decrease of plasma osmolality with resulting convulsions. Dosage in infants younger than 3 months has not been established. Dose should start at 5 µg or less. Use of DDAVP* in infants and children will require careful fluid intake restriction to prevent possible hyponatremia and water intoxication.

ADVERSE REACTIONS

Side effects reported from controlled clinical trials involving 638 subjects included headache (2%), and rhinitis (1%), nasal discomfort (1%), epistaxis (1%), and abdominal pain (1%), increased appetite, conjunctivitis and after taste in the mouth. These symptoms disappeared with reduction of dosage or withdrawal of drug. Adverse effects rarely necessitate discontinuance of the drug.

DOSAGE AND ADMINISTRATION

Diabetes Insipidus

Dosage must be individualized but clinical experience has shown that the average daily dose for adults is 10 µg to 40 µg DDAVP* (desmopressin acetate) and for children 3 months to 12 years of age, 5 µg to 30 µg. This may be given as a single dose or divided into two or three doses. About one third of patients can be treated with a single daily dose. Geriatric patients may be more sensitive to the antidiuretic effect of the usual adult dose of desmopressin acetate.

In those children who require less than 10 µg, the rhinyle presentation should be used since the spray will only deliver a minimum of 10 µg. In some patients, better control of polyuria is attained with smaller doses given at 6- to 8-hour intervals.

Most adults require 20 µg daily, administered in two divided doses (in the morning and the evening). Initially, therapy should be directed to control nocturia with a single evening dose.

Nocturnal Enuresis

Dosage must be individualized by the physician. The clinically effective intranasal dose varies between patients and ranges between 10 µg and 40 µg desmopressin acetate daily. A suitable starting dose for adults and children is 10 µg given 1 hour before sleep. A restricted fluid intake is recommended a few hours before administration.

How Supplied

Metered dose spray pump (2.5 ml) provides 25 doses of 10 µg desmopressin acetate.

Product monograph available upon request.

References:

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