



HL Influences Diabetes Education Preferences of Parents of Children with Diabetes

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Carol J. Howe, PhD, RN, Children's Hospital of Philadelphia, Philadelphia, Pennsylvania, USA, presented the results of a study showing that parents of children with type 1 diabetes mellitus (T1DM) prefer a learner-driven diabetes curriculum that is geared toward their health literacy (HL) needs.

The Institute of Medicine defines health literacy as the capacity to obtain, process, and use health information to make health decisions. When children and their parents are taught how to deal with diabetes, they depend on face-to-face communication with diabetes educators. However, according to Dr. Howe, studies in adult patients with diabetes have shown that those with low health literacy are more likely to have problems understanding medical terms and explanations of their condition and the self-care they need to perform at home.

With this in mind, Dr. Howe conducted a study to examine and explore how health literacy affects communication in parents of children with T1DM. Parents of patients in a pediatric diabetes specialty clinic in a large tertiary care pediatric center were surveyed. The cohort included parents ($n=162$; 81% mothers; 66% white) with a child (mean age, 12 years; range, 2 to 20 years) with T1DM (mean duration of diabetes, 4.2 years; range, 1 month to 16 years). Seventy-three percent of parents had some college education.

The Interpersonal Processes of Care (IPC) survey (comprising 15 items over 5 subscale categories) and a semi-structured interview were used to measure the communication process. The Rapid Assessment of Adult Literacy in Medicine (REALM) test was used as a screening tool to assess parents' medical-related literacy. The REALM test scores ranged from 4 to 66 (mean, 62.8), with 18.5% of parents assessed as having low health literacy. Quantitative and qualitative analyses were performed to examine the relationship between health literacy and communication.

There was a negative association between health literacy and the "general clarity" subscale category ($p=.05$; Table 1). Health literacy was not associated with the other categories such as "explaining condition," $p=.816$; "explanation of diabetes care," $p=.15$; "eliciting concerns," $p=.929$; and "decision-making," $p=.681$). There was a negative association between number of years of education and black race with "decision making" ($p=.083$ and $p=.086$). There was a positive relationship between the duration of diabetes and "explanation of

Table 1. Associations Between Health Literacy and Communication Categories

IPC Subscale	Predictor	Odds Ratio	p Value
General clarity	Health literacy	.945	.05
Explanation of care	Duration of diabetes	1.15	.05
Decision making	Years of education	1.186	.083
	Duration of diabetes	1.118	.027
	Black race	.391	.086

IPC=Interpersonal Processes of Care.

diabetes care" ($p=.05$) and the "decision-making" aspect of communication ($p=.027$).

Interviews were conducted with 24 parents, of whom 11 had low health literacy. Compared with parents who had adequate health literacy, those with low health literacy were more confused by medical terms. There was no difference in information provided by parents of low or adequate health literacy in the "explain condition" category.

The "explain diabetes care" category consisted of 3 subcategories: what to do versus how to think, teach us at our pace, and how we learn. For the first subcategory, parents with low health literacy were task focused, whereas those with adequate health literacy focused on problem solving. In the second subcategory, low health literacy parents preferred information to be broken down and repeated but not rushed, whereas adequate health literacy parents preferred more detailed information provided at a faster pace. Finally, parents with low health literacy wanted the aid of visual cues, whereas those with adequate health literacy wanted a lot of dialogue in order to understand the reasoning behind the decisions.

In the "eliciting concerns" category, parents with low health literacy wanted further clarification of information, whereas those with adequate health literacy asked questions in order to gather new information. In the "decision-making" category, regardless of health literacy level, parents wanted the diabetes educator to know their life stressors.

These data demonstrate that there are differences in communication among parents according to their health literacy. These differences reflect their specific needs with respect to educational content, and the pace and delivery of the information. Dr. Howe concluded that these data provide opportunities for diabetes educators to expand their training in order to communicate in a clear and effective manner and to develop learner-driven, problem-based curricula that utilize a variety of teaching and learning strategies.