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ABSTRACT

A study examined the types and amounts of information expectant mothers need during their pregnancy, as well as their satisfaction with their physicians. Seventy women who had given birth within the previous 4 years completed a questionnaire eliciting information they received during pregnancy, their satisfaction with their physician, and demographic data. The results indicated that while expectant mothers did receive a great deal of information from their obstetricians, they needed more information about what to expect during labor and delivery, as well as more information about breast feeding. Subjects indicated that they received too much information about the hazards of smoking and drinking, and too much printed information. While expectant mothers tended to be very satisfied with their physicians, older mothers scrutinized the doctor more carefully and were more critical than were younger mothers. (A copy of the questionnaire is appended.) (HTH)

AN ANALYSIS OF INFORMATION NEEDS AND SATISFACTION OF EXPECTANT MOTHERS

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ABSTRACT

Previous doctor-patient research has investigated communication variables and patient satisfaction; however, very little empirical research has looked specifically at the information needs of expectant mothers. This study was designed to discover what types and amounts of information expectant mothers need during their pregnancy as well as their satisfaction with the physician. Results indicated that while expectant mothers do receive a great deal of information from their obstetrician, they need more information on what to expect during labor and delivery as well as more information about breast feeding. Too much information was given on smoking and drinking, and patients felt they got too much written information. While expectant mothers tended to be very satisfied with their physician, older mothers scrutinized the doctor more carefully and were more critical.

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Review of Literature and Purpose

The specialization of physicians and health s rvices seems to be marking an end to enduring relationships between patients and doctors (Daly & Hulka, 1975). In addition, the competition for patients is increasing as doctors realize that they are operating a business reliant upon customers. Patients are more frequently having to "shop" for a doctor whenever they have a particular medical need. Like many other businesses, doctors must be concerned with how to best satisfy their clients, and Costello (1977) has concluded that this particular aspect of the health care situation can best be studied from a communication perspective.

Doctor-patient relationships serve three basic functions: 1) the physician's knowledge and skills are applied to the patient's needs, 2) the physician provides emotional reinforcement for the patient, and 3) communication of information between the physician and patient (Vuori, Aaku, Aine, Erkko, and Johansson, 1972). While the first function is generally accepted, the significance of the second two roles "may be underestimated by the medical profession" (Daly & Hulka, 1975, p. 148). Langer, Janis, and Wolfer (1975) have asserted that the patient's socio-emotional condition may be directly affected by the doctor. In addition, the patient's overall perception of self may be a product of relationships with "significant others" such as physicians (Sullivan, 1953).

As for the third function, communication of information, it seems that

patients are even more dependent upon their doctors. According to Costello (1977), the doctor "functions as a gatekeeper for the entire medical establishment" (p. 558). This is especially significant in light of findings indicating that many patients are unwilling to express many of their needs and concerns to their physician (Korsch & Negrete, 1972). The problem is worsened further since many physicians withhold information because they underestimate their patient's capacities to understand medicine (Kane & Deuschle, 196/; Korsch, Gozzi, & Francis, 1968). While information may be important to patients, the manner in which the information is presented may be just as important. Dervin, Harlock, Atwood, and Garzona (1980) have noted that in order for information to be useful, the individual must be able to make "personal sense" of it.

Utilizing interaction analysis, Korsch and Negrete (1972) found that physicians spent the majority of their talk time with patients giving information, yet many patients expressed that their needs had not been met. These researchers found a significant correlation between the patient's level of satisfaction and his/her expectations being met. In addition to the need for information, the delivery or interpersonal style of the physician may have a direct impact upon patient satisfaction. Costello (1977) has indicated that variables traditionally considered to affect interpersonal relationships may be especially relevant to the doctor-patient situation.

Like many other areas in the field of medicine, obstetrics has developed into an area supporting numerous specialized practitioners. The physician administering care to a woman for the duration of her pregnancy enters into a rather unique relationship. While having to perform certain medical tasks, the doctor must also deal with various emotional stresses of the patient brought on by both physical and psychological events. However,

unlike many health care situations where patients are in anguish over their physical condition, a woman's pregnancy is often a combination of excitement, satisfaction, anticipation, and physical discomfort. Given the uniqueness of this situation and the need to establish a rapport with the physician, it seems a systematic assessment of some of the variables affecting the patient's level of satisfaction is warranted.

In an effort to update the empirical research investigating patient satisfaction as well as to better understand investigations specifically concered with the satisfaction of pregnant women, a computer search was carried out using MEDLINE (the computer version of Index Medicus). "Physician-Patient Relations" and "Satisfaction" were the key terms used, and the literature was searched from 1975 to 1981. The majority of this research confirmed the findings of previous investigations; however, very few studies specifically addressed pregnant women and satisfaction with their physician. Hulka, Kupper, Cassel, and Babineau (1975) found that compared to other physicians, communication was better for obstetricians with pregnant women as well as for pediatricians with mothers of infants. In addition they found that pregnant women were more satisfied with non-board certified physicians, thus indicating that physicians with high credentials do not necessarily produce greater patient satisfaction. In a study of staff-patient communication involving mothers interviewed following delivery, Kirke (1980) found a significant association between satisfaction with communication and overall satisfaction with care at the hospital. Mothers did complain, however, that they did not receive a sufficient explanation of procedures followed during labor and deliver, and that they would have preferred information about breast feeding.

Using the findings established from previous research, the present

study was designed to investigate the role of communication in physician-expectant mother relationships. More specifically, the study sought to determine: (1) what types and amounts of information expectant mothers need during their pregnancy, (2) how satisfied expectant mothers are with their physicians, and (3) if certain demographic variables are associated with the information needed or levels of satisfaction.

Methods

Scales

After reviewing the literature and interviewing a variety of individuals in the health profession, a questionnaire was developed. The three main areas of the questionnaire included: 1) the amount of information received from the doctor, 2) the patient's satisfaction, and 3) demographic variables (see Appendix).

The "Information Received" scale contained thirteen topics which previous research indicates are important to expectant women. The topics included such items as: dieting and nutrition, weight gain, breast feeding, exercise, what to expect as pregnancy progressed, and explanation of terms. For each topic area, the patient was asked to make two responses. The first was the amount of information the patient perceived she had actually received from the doctor (i.e., the "now" item). The second was a response indicating the amount of information she felt she needed on that topic (i.e., the "need" item). For both the amount of information received and information needed items, patients indicated they received or needed: 1) "Very little or no information," 2) "Little information," 3) "Some information," 4) "Much information," or 5) "Very much information."

Using the "now" and "need" responses for each item, an "uncertainty"

score was calculated. This "uncertainty" score was obtained by subtracting the "need" item from the corresponding "now" item, thus creating an "uncertainty" score ranging from -4 to +4. A negative "uncertainty" score indicated a lack of information and uncertainty on that item, a positive score indicated redundancy or too much information on that item, and a score approaching zero indicated patients received the amount of information they needed. An analysis of the "uncertainty" scores allows us to understand items on which patients need more information (i.e., a relatively large negative score indicating high uncertainty) and items on which patients need less information (i.e., a relatively large positive score indicating too much information). This "Information Received" scale is a variation of the scaling procedure used on the "Receiving Information from Others" scale developed for use in the International Communication Association (ICA) Communication Audit. For more detail on the procedure for generating and analyzing information uncertainty scores, the ICA Communication Audit should be consulted (Porter, 1979; Goldhaber, Yates, Porter, & Lesniak, 1978).

The second part of the questionnaire was a twelve item "Satisfaction" scale which determined each patient's level of satisfaction with her physician. For each item on the scale, patients indicated their agreement with the item by responding: 1) "strongly disagree," 2) "disagree," 3) "neutral or does not apply," 4) "agree," or 5) "strongly agree." The satisfaction scale contained items such as: the medical skills and competency of the doctor, if the patient felt encouraged to ask questions, whether questions were answered thoroughly and explanations provided, and if the physician was personable.

The last two statements on the scale sought to determine if the subject had experienced any unusual situations during her pregnancy that might cause

her responses to be atypical. The items were concerned with the physical condition of the patient during the pregnancy and the social relations that existed during the nine months. These items were not included as part of the satisfaction scale for statistical analysis.

The questionnaire also contained a "Demographics" section which asked for background information. The subject's number of children, time elapsed since last delivery, occupation, attendence of a pre-natal course, education level, and age were sought. Finally, subjects were asked to include any remarks they had concerning things they liked or disliked about the care they received from their physician.

Subjects and Procedures

Several methods of getting patients for this study were pursued. The Bureau of Vital Statistics and County Records Clerk were consulted in an effort to get the names of mothers who had recently given birth. However, privacy of information legislation prevented these sources from providing such information.

Another method considered was to contact maternity patients following delivery but prior to leaving the hospital. Even though a sense of euphoria may exist during this time period, it was considered advantageous due to the large number of subjects that could be surveyed in a relatively short period of time. After talking with several hospital officials, however, this plan was abandoned. Hospital administrators seemed to feel such a procedure would cause a great deal of defensiveness in many doctors. Hospitals are reliant upon doctors to bring them business, and therefore, they did not want to create any friction. Several officials indicated that even though the researchers did not seek to identify the patients and their doctors by name, many physicians would be skeptical and would vehemently oppose

any research analyzing their performance.

Subjects' names and addresses were eventually gained from two different sources. The first group consisted of volunteers who had delivered in a large private hospital in San Antonio, Texas which attracted primarily middle class, caucasian patients. Although hospital authorities were prohibited from disclosing any patient records, administrators were kind enought to allow volunteer forms to be sent out to patients via nurses. The forms briefly described the study and asked the patient's participation by providing her name and address. The head nurse in charge of the maternity area was the liaison between the researchers and the nurses. Although there was some concern whether this would be a satisfactory means for controlling how the forms were passed out and returned, the procedure proved successful. There was an extremely high return rate, and patients under the care of many different physicians were included. Upon receiving the forms, volunteers were subdivided into patients residing inside the city or those living in surrounding communities.

A second group of new mothers was established by consulted the "Public Records" section of a New Braunfels, Texas newspaper. New Braunfels is a small town near San Antonio, and all the women listed in the paper had given birth in the town's community hospital. It was believed that the newspaper which published the lists used in this study operated in a community in which the privacy act had not been an issue of concern.

Survey forms were printed on the front and reverse sides of legal size paper so that only one sheet was needed for each questionnaire. The forms were mailed with a cover letter and a stamped, self-addressed envelope. A code number was assigned to each survey form which indicated the subject's geographical location. One hundred-five forms were mailed between mid-October and mid-November 1981. Fifty-eight forms were mailed to patients

from the San Antonio hospital and 47 were mailed to New Braunfels patients. The average response time was approximately one week.

Results

Of the 105 mailed questionnaires, 70 were returned. Two forms were eliminated because the subjects indicated that they were Registered Nurses, and a third form was disregarded due to incomplete answers. Thirty of the forms were returned from volunteers from the San Antonio hospital who lived in San Antonio. Responses were also received from eleven mothers living outside of San Antonio but who had delivered in the San Antonio hospital. Twenty-six patients from the New Braunfels area returned the questionnaires. In total, the response rate was 63.8%.

Before analyzing the data, a preliminary analysis was undertaken to determine if it was appropriate to pool the responses from the various geographical locations. Analyses of variance were computed using the uncertainty scores from the "Information Received" scale and the items on the "Satisfaction" scale as dependent variables.

Results for the "Information Received" scale indicated no significant differences across the three groups except for item 11 ($p < .05$). New Braunfels patients indicated that they had received less explanation of technical terms ($M = -.73$) than those living inside of San Antonio ($M = .10$) and those living outside of San Antonio ($M = .64$). For the "Satisfaction" scale, there were no significant differences across the groups except for item 12 ($p < .05$). New Braunfels patients perceived their doctors as less competent ($M = 4.38$) than patients living inside of San Antonio ($M = 4.83$) or those living outside of San Antonio ($M = 4.82$). Because there were so few items showing significant differences and since the overall responses to the "Information Received" scale and "Satisfaction" scale were not sta-

tistically different, it was felt that pooling all the responses for further analysis was justified.

Demographics

Table 1 displays the results of the subjects' demographic characteristics. The majority of respondents (56.7%) indicated that this was their first time to give birth. Approximately twenty-two percent had given birth two to three years ago, and 20.9% had given birth four or more years ago. The most common occupation was listed as secretary/clerical (28.4%), with 25.4% being housewives, and another 23.9% indicating that they were employed in a business/professional job type. Most of the subjects (65.7%) had attended a pre-natal course during this pregnancy, with 7.5% having attended a course with an earlier pregnancy. Ninety-seven percent of the respondents had at least a high school education with 44.8% having "some college." Twenty-seven percent had a bachelors degree or above. The ages were equally distributed, with 23.9% being 23-25, 26.9% being 26-28, and 20.9% in the 29-31 range. Overall, these findings reveal that the women sampled in this survey were varied in their occupations, education, and age as well as typical of middle class women of childbearing age.

Information Received

The mean scores for information received, information needed, and the level of uncertainty are displayed in Table 2. The "now" scale had an alpha reliability of .921, the "need" scale had an alpha reliability of .929, and the "uncertainty" scale had an alpha reliability of .902.

Overall, patients indicated that basically they were receiving the information they needed, with a relatively low uncertainty mean score of .111. Three items, however, indicated that an insufficient amount of information had been received. Patients received much less information than they needed

on what to expect at the time of delivery (-.672). Also, information concerning what to expect during labor was lacking (-.657), as well as information about breast feeding (-.433). Conversely, patients indicated they received too much information about smoking (.940) and drinking (.716), and that they received more written information (.552) than they needed.

Satisfaction

Table 3 indicates the mean scores for the responses to the "Satisfaction" scale. This scale was found to be reliable, producing an alpha reliability of .913. In general, the patients' overall satisfaction score ($\underline{M}$ = 4.096) indicated that they were quite satisfied. Patients expressed the least satisfaction with the items concerning the physician's interest in involving the husband (3.687), having to wait excessive amounts of time for scheduled appointments (3.821), and the time the physician took to talk about the pregnancy (3.940). It should be noted, however, that even these responses indicated relatively high satisfaction. Patients were most satisfied with their physician's level of competency (4.657), followed by questions being answered thoroughly (4.328), and the feeling that the physician was personable (4.224).

Correlational Analyses

Overall, the "Satisfaction" and "Information Recieved" scales were significantly correlated ($r = .442$, $p < .001$). This indicates that the greater the information uncertainty (i.e., a negative uncertainty score) the less the satisfaction. In addition, the overall satisfaction score was significantly correlated ($p < .05$ or better) with each of the uncertainty scores of the thirteen items on the "Information Received" scale.

The demographic variables (i.e., number of children, time since last

TABLE 1
Frequency Chart
Demographic Variables

CATEGORY	FREQUENCY	PERCENTAGE
Location		
Hospitalized in San Antonio		
1) Residence in San Antonio	30	44.8
2) Residence outside of San Antonio	11	16.4
Hospitalized in New Braunfels	26	38.8
Totals	67	100%
Number of Children		
First Child	38	56.7
Second Child	19	28.4
Third Child	9	13.4
Fourth Child	1	1.5
Totals	67	100%
Time Since Last Gave Birth		
Never	38	56.7
2 Years	6	9.0
3 Years	9	13.4
4 Years	4	6.0
5 Years	10	14.9
Totals	67	100%
Occupation		
Housewife	17	25.4
Laborer	2	3.0
Secretary/Clerical	19	28.4
Teacher	8	11.9
Business/Professional	16	23.9
Other	5	7.5
Totals	67	100%

TABLE 1 - Continued

CATEGORY	FREQUENCY	PERCENTAGE
Pre-Natal Course		
Yes	44	65.7
Previously taken	5	7.5
No	18	26.9
Totals	67	100%
Education		
Less than high school	2	3.0
High school	17	25.4
Some college	30	44.8
College degree	9	13.4
Some graduate work	6	9.0
Graduate degree	2	3.0
Beyond Masters	1	1.5
Totals	67	100%
Age		
Under 20	2	3.0
20-22	8	11.9
23-25	16	23.9
26-28	18	26.9
29-31	14	20.9
32-34	7	10.4
35-37	1	1.5
38-40	1	1.5
Totals	67	100%

TABLE 2
Information Received

	ITEM	MEAN SCORES* NOW	NEED	UNCERTAINTY
1.	Instructions concerning dieting habits and nutrition.	3.343 (1.038)**	3.000 (1.267)	.343 (1.420)
2.	Instructions concerning smoking.	2.537 (1.428)	1.597 (1.031)	.940 (1.445)
3.	Instructions concerning drinking.	2.612 (1.348)	1.896 (1.257)	.716 (1.444)
4.	Instructions concerning exercise.	3.045 (1.211)	2.910 (1.228)	.134 (1.402)
5.	Information concerning weight gain.	3.463 (1.198)	3.209 (1.398)	.254 (1.501)
6.	Information about breast feeding.	2.776 (1.324)	3.209 (1.581)	-.433 (1.520)
7.	Information as to what to expect as my pregnancy progressed.	3.388 (1.279)	3.388 (1.471)	.000 (1.487)
8.	Information concerning what to expect during labor.	2.851 (1.490)	3.507 (1.460)	-.657 (1.693)
9.	Information concerning what to expect at the time of delivery.	2.896 (1.568)	3.567 (1.520)	-.672 (1.926)
10.	Information concerning any type of pre-natal courses (Lamaze, Le Boyer, natural childbirth, pre-natal courses, etc.)	3.552 (1.490)	3.224 (1.575)	.328 (1.491)
11.	Explanations of technical or medical terms.	3.119 (1.572)	3.254 (1.450)	-.134 (1.517)
12.	Information concerning how to contact the doctor in case of an emergency.	3.552 (1.438)	3.478 (1.560)	.075 (1.396)
13.	Written infromation received through pamphlets handouts, etc.	3.925 (1.418)	3.373 (1.526)	.552 (1.340)
	Overall Mean Score	3.158 (0.986)	3.047 (1.043)	.111 (1.026)

* A negative uncertainty score indicates a lack of information.
A positive uncertainty score indicates too much information.
An uncertainty score approaching zero indicates patients are receiving the information they need. Uncertainty scores range from -4 to +4.

** Standard Deviation

TABLE 3
Satisfaction Scale

ITEM	Mean Score*
1. During regular check-ups with my doctor, I felt encouraged by him/her to ask questions concerning my pregnancy.	4.045 (1.079)**
2. Whenever I asked questions, I felt my doctor answered them thoroughly.	4.328 (0.842)
3. My doctor always seemed to take the time to talk with me about my pregnancy.	3.940 (1.153)
4. Whenever I contacted my doctor outside of regularly scheduled visits he showed me he was truly concerned about me as a person.	4.134 (0.983)
5. Whenever giving me instructions, my doctor always explained why I should follow them.	4.164 (0.809)
6. I feel that my physician was personable and related to me as a person.	4.224 (1.042)
***7. I usually had to wait an excessive amount of time after arriving for regularly scheduled appointments.	3.821 (1.313)
8. My doctor seemed very interested in involving my husband with my pregnancy.	3.687 (1.104)
9. I feel that my doctor gave me plenty of information during my pregnancy.	4.030 (0.953)
10. I was satisfied with the way in which my doctor gave me instructions during my pregnancy.	4.104 (0.956)
11. My doctor gave me information when I felt I needed it (not too early and not too late).	4.015 (0.913)
12. I feel the medical skills and competancy of my doctor were very high.	4.657 (0.729)
Overall	4.096 (0.715)

* The satisfaction scores range from 5 (high satisfaction) to 1 (low satisfaction).
** Standard Deviation.
*** Responses to this statement were inverted for statistical analysis.

gave birth, occupation, pre-natal course, education, and age) were each correlated with the overall satisfaction score and the overall information uncertainty score. No signficant correlations were found, however, thus indicating that there is no signficant relationship between the demographic variables investigated in this study and overall information uncertainty or overall satisfaction.

All of the demographic variables were then correlated with the uncertainty scores for each of the thirteen items on the "Information Received" scale. Significant correlations were found between the number of children the mother had and items 2, 3, 6, 7, 8, and 9 on the "Information Received" scale. Mothers with fewer children were receiving far more information than they needed about smoking ($r = -.344$, $p < .002$) and drinking ($r = -.359$, $p < .001$). Mothers who had more children were getting only slightly more information than they needed about smoking and drinking. In addition, mothers with fewer children had greater uncertainty than mothers with several children on information about breast feeding ($r = .234$, $p < .03$), what to expect as pregnancy progressed ($r = .235$, $p < .03$), what to expect during labor ($r = .290$, $p < .01$), and what to expect at the time of delivery ($r = .392$, $p < .001$). The same pattern of correlation was found between time since last delivery and items 2, 3, 7, 8, and 9. Respectively, the correlations were $-.346$, $p < .002$; $-.322$, $p < .004$; $.244$, $p < .02$; $.214$, $p < .04$; and $.344$, $p < .002$.

The only other demographic variable to show a significant correlation with information uncertainty concerned mothers enrolled in the pre-natal course. Persons having attended pre-natal courses needed less information about smoking ($r = -.267$, $p < .02$) and drinking ($r = -.241$, $p < .03$).

In another set of correlational analyses, all of the demographic

variables were correlated with each of the twelve items on the satisfaction scale. The significant correlations emerging from this analysis are as follows. New mothers were more satisfied with the medical skills and competency of their doctor (item 12) than were mothers with several children ($r = -.247$, $p < .02$). Also, mothers who had attended pre-natal courses were more satisfied with the overall skills of their doctor (item 12; $r = -.232$, $p < .03$) and felt the doctor answered their questions more thoroughly (item 2; $r = -.273$, $p < .01$) than those who did not attend pre-natal courses. In terms of the mother's age, younger mothers felt that their doctor encouraged them to ask questions about their pregnancy (item 1) more than did older mothers ($r = -.206$, $p < .05$), and young mothers felt that their physician was more personable and related to them more as a person (item 6) than did older mothers ($r = -.198$, $p < .05$).

Discussion

The subjects used in this study, although self-selected, appear to be quite representative of expectant mothers of childbearing age. Most of the women were in their mid-twenties, and they seemed to have fairly typical careers as housewives, secretaries, teachers, and businesswomen. Very few had not completed high school, with most of them having some exposure to college or a college degree. It would appear that generalizations could be made from this sample with a reasonable amount of validity.

In terms of information received, the expectant mothers analyzed in this study indicated that as a rule they were receiving the information they needed. This supports the research of Hulka, Kupper, Cassel, and Babinean (1975) who found that pregnant women communicated better with their physicians than many other types of patients. However, mothers in the present study did express a need for much more information about

what to expect during labor and delivery. These findings parallel those discovered by Kirke (1980). Labor and delivery are times of high physical and emotional stress, and it appears that the anticipation of these events creates a great deal of uncertainty in the expectant mothers. These findings suggest that much more information is needed to reduce patient uncertainty and to create a clear set of expectations about what will happen during labor and delivery.

Also in keeping with the findings produced from the Kirke (1980) study, this investigation found that expectant mothers want much more information about breast feeding. In recent years there has been a renewal of interest in breast feeding, and support groups such as La Lache League have done a great deal to inform mothers on its advantages. Physicians might not be giving more information on breast feeding for a variety of reasons. Some possibly view it as a fad and dismiss breast feeding as unimportant. Perhaps some physicians are not well informed on all that breast feeding entails, or possibly they depend on other sources such as family and friends to provide this information. Even though the general public appears to be aware that breast feeding is more acceptable today than it was previously, expectant mothers do not appear to have detailed information on this topic and express a high need for such information.

As for the finding that too much information is being given on smoking and drinking, there are a variety of explanations. The medical community has expended considerable effort to inform the public about the dangers of smoking and drinking for the expectant mother. It is possible that patients come to the doctor with this information well in mind. Patients also might resent being told not to smoke or drink, feeling that the doctor is "preaching" to them. If this is the case, the response that they need less in-

formation on these topics might really be an aritfact of their resentment instead of a true indication of the information patients need.

Results also indicated that patients received too much written information. This could be an indication that physicians are replacing face-to-face discussion by simply passing out pamphlets and detailed written material. Whatever the case, the solution might not be to reduce the amount of written information, which can often provide very helpful material, but to spend more time talking with the patient about what she read and clarify information she did not understand. As Dervin, et al. (1980) have demonstrated, the personal touch cannot be avoided if information is to really become useful for the patient.

This study, like many others, indicated a fairly high degree of satisfaction among patients. Arntson, Droge, and Fassl (1978) have reported that patients typically report being satisfied, responding "in a stereotyped, socially acceptable manner and only rarely express negative attitudes" (Hulka, Zyzanski, Cassesl, & Thompson 1970, p. 429). The present study found that patients viewed their physician as being very competent, felt their physician answered questions thoroughly, and felt their physician was personable. The strong correlation between the information received and patient satisfaction again emphasizes the importance of the role of communication in the physician-patient relationship. While caution should be taken when making causal statements from correlational data, these findings might be indicating that increased information giving and communication might be a major determiner of patient satisfaction. Future research should help clarify this relationship.

The demographic variables investigated here were not significantly correlated with overall satisfaction or overall information uncertainty;

however, the significant correlations between several of the demographic variables and certain items on the satisfaction scale and information received scale produced some interesting findings. Mothers giving birth for the first time had much more information uncertainty and specifically need more information about what to expect in labor and delivery as well as about breast feeding. Since new mothers have less experience than mothers who have had children previously, it stands to reason that they would need more information. The fact that new mothers are more satisfied with the medical skills and competency of their doctor could also be an indication of their inexperience and feeling of unquestionable trust in the "doctor." Older mothers seemed to be more critical of the doctor, feeling that the doctor did not encourage them to ask questions and that he was less personable.

Recommendations for the Physician

The obstetrician, like many other physicians, must not only deal with the physical needs of the patient but also must satisfy the informational and emotional needs. This obviously is a difficult job, since the physician and patient are often operating from quite different perspectives. The physician is trying to collect and diagnose symptoms using scientific nomenclature while the patient is often preoccupied with anxieties and physical discomfort, using unsophisticated and imprecise terminology. While the doctor cannot hope to bridge all the gaps, the present study produced findings which might be beneficial to the physician.

It is important to realize that this investigation was based on the perceptions of patients about their information needs. Admittedly, these perceptions can often be biased by emotion or a limited knowledge of medicine. An analysis of these perceptions provide, however, a valuable base

for understanding the point-of-view of the patient and suggest certain action the physician might take. The following statements are presented as a summary of the major findings of this investigation and are suggestions which might improve the physician's effectiveness when caring for expectant mothers.

1. Overall, expectant mothers indicate that they are receiving slightly more information from their obstetrician than they need. Physicians should be aware of the potential for information overload and be judicious in determining what, when, and in how much detail information should be given.

2. Of the various kinds of information the physician could give the expectant mother, in general obstetricians appear to be giving appropriate information concerning dieting habits, exercise, weight gain, what to expect as pregnancy progresses, types of pre-natal courses available, and explanations of medical terms.

3. All expectant mothers, and especially women giving birth for the first time, need much more information about what to expect during labor and delivery as well as more information on breast feeding.

4. All expectant mothers, especially women giving birth for the first time and women who attend pre-natal courses, need less information about smoking and drinking.

5. Patients giving birth for the first time need more information on what to expect as the pregnancy progresses.

6. Since expectant mothers indicate the need for less written information (i.e., pamphlets and handouts) the physician should either reduce the amount of written information or spend more time discussing the large amount of written material given to the patient.

7. Obstetricians need to be aware that older mothers and those who have given birth previously tend to scrutinize the physician more carefully. They tend to view the doctor as somewhat less competent than new mothers. In addition, they do not feel the doctor encourages them to ask questions, and they feel their physician does not relate to them in a personable manner as much as women giving birth for the first time.

APPENDIX

Information Received Scale

Throughout your pregnancy you received various types and amounts of information from your doctor. For each topic listed below, make two responses indicating: 1) the amount of information you received from your physician on that topic, and 2) the amount of information you feel you needed or wanted concerning that topic. (Remember, the only information of concern is the information given you by your doctor before you entered the hospital to give birth.) Use the following scale to make your responses:

1-Very little or no information
2-Little information
3-Some information
4-Much information
5-Very much information

Topic Areas:	Amount of information I received	Amount of information I needed
1. Instructions concerning dieting habits and nutrition.	1 2 3 4 5	1 2 3 4 5
2. Instructions concerning smoking.	1 2 3 4 5	1 2 3 4 5
3. Instructions concerning drinking.	1 2 3 4 5	1 2 3 4 5
4. Instructions concerning exercise.	1 2 3 4 5	1 2 3 4 5
5. Information concerning weight gain.	1 2 3 4 5	1 2 3 4 5
6. Information about breast feeding.	1 2 3 4 5	1 2 3 4 5
7. Information as to what to expect as my pregnancy progressed.	1 2 3 4 5	1 2 3 4 5
8. Information concerning what to expect during labor.	1 2 3 4 5	1 2 3 4 5
9. Information concerning what to expect at the time of delivery.	1 2 3 4 5	1 2 3 4 5
10. Information concerning any type of pre-natal courses (Lamaze, Le Boyer, natural child birth, pre-natal courses, etc.)	1 2 3 4 5	1 2 3 4 5
11. Explanations of technical or medical terms.	1 2 3 4 5	1 2 3 4 5
12. Information concerning how to contact the doctor in case of an emergency.	1 2 3 4 5	1 2 3 4 5
13. Written information received through pamphlets, handouts, etc.	1 2 3 4 5	1 2 3 4 5

Satisfaction Scale

Satisfaction: For each statement presented below, please respond by circling the answer which best describes your agreement with that particular statement. Use the following scale in making your responses:

SD - Strongly Disagree
D - Disagree
N - Neutral or does not apply
A - Agree
SA - Strongly Agree

1. During regular check-ups with my doctor, I felt encouraged by him/her to ask questions concerning my pregnancy. SD D N A SA
2. Whenever I asked questions, I felt my doctor answered them thoroughly. SD D N A SA
3. My doctor always seemed to take the time to talk with me about my pregnancy. SD D N A SA
4. Whenever I contacted my doctor outside of regularly scheduled visits he showed me he was truly concerned about me as a person. SD D N A SA
5. Whenever giving me instructions, my doctor always explained why I should follow them. SD D N A SA
6. I feel that my physician was personable and related to me as a person. SD D N A SA
7. I usually had to wait an excessive amount of time after arriving for regularly scheduled appointments. SD D N A SA
8. My doctor seemed very interested in involving my husband with my pregnancy. SD D N A SA
9. I feel that my doctor gave me plenty of information during my pregnancy. SD D N A SA
10. I was satisfied with the way in which my doctor gave me instructions during my pregnancy. SD D N A SA
11. My doctor gave me information when I felt I needed it (not too early and not too late). SD D N A SA
12. I feel the medical skills and competancy of my doctor was very high. SD D N A SA
13. I feel that physically the nine months of my pregnancy (not including delivery) was relatively normal. SD D N A SA
14. During the nine months of my pregnancy, I feel that my living circumstances (i.e. family relations, friendships, etc.) were relatively normal. SD D N A SA

Demographics Scale

Demographics: For each of the following items, mark the response which best describes you. Please respond to all items and mark only one response for each item.

1. How many children do you have (including the child you just gave birth to)?

___1 ___2 ___3 ___4 ___5 ___6 ___7 ___8 or more

2. Not including the child you have just given birth to, how long has it been since you gave birth?

___never ___within 2 yrs. ___ within 4 yrs.
___within 1 yr. ___within 3 yrs. ___ longer than 4 yrs. ago

3. Before becoming pregnant, which best describes your occupation?

___housewife ___secretary/clerical ___laborer
___teacher/educator ___business/professional ___other_____

4. Did you attend any pre-natal courses during your pregnancy? (e.g. Natural child birth, Lamaze, pre-natal course at the hospital, etc.)

___yes ___no

5. What is the last level you completed in school?

___ less than high school graduate
___ high school graduate
___ some college work or technical school
___ undergraduate college degree (4 yr. institution)
___ some graduate work beyond the bachelor's degree
___ graduate degree (i.e. master's degree)
___ beyond master's degree

6. What is your age?

___ under 20 ___23-25 ___ 29-31 ___35-37 ___ over 40
___ 20-22 ___26-28 ___ 32-34 ___38-40

Other Remarks: If you have any further remarks you would like to make, please write them on a separate sheet of paper and include them with the questionnaire. Feel free to indicate things you liked as well as did not like about the care you received from your doctor.

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