Perceptions Assessment of a Group of Puerto Rican Pregnant Adolescents Regarding the Susceptibility, Severity, Benefits and Barriers of Teenage Pregnancy

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Objective. **This assessment was aimed at describing the perceptions of a group of Puerto Rican pregnant adolescents regarding the susceptibility, severity, benefits and barriers of adolescents pregnancy.**

Method. **A non probabilistic sample of 71 adolescents that receive prenatal services at a hospital in the greater metropolitan area of San Juan, Puerto Rico. Descriptive statistics were utilized to describe the population.**

Results. **A 50.7% of the participants had a moderated high susceptibility perception and 53.5% had a high severity perception. In general, 70.4% of the participants perceived that the prenatal care during the adolescent pregnancy is highly beneficial and 60.0% had a low barriers perceptions.**

Conclusion. **The assessment specifically demonstrated the need to create permanent educational programs in hospitals and schools. It is important that the health professionals develop basic educational strategies to procure effective behavior modification in adolescents.**

Key words: Adolescents, Pregnancy, Perceptions, Barriers

Adolescent pregnancy is widely recognized as a serious and complex problem in our society. Puerto Rico Health Department reports (1) consistently show an alarming increase in cases of teenage pregnancy. A 1989 Vital Statistics Report prepared by the Puerto Rico Health Department noted that there were 12,012 live birth from women less than 20 years old. In 1990, however, this figure increased to 12,505, out of which 2.3% were from adolescent mothers less than 15 years old. Most of these youngsters indicated that they were not legally married at the time of childbirth. In 1988, a case of a "mother-child", only 10 years old, and other four cases of 12 years old girls were registered. By 1993, another statistical assessment showed that the figure skyrocketed further. That year, 12, 819 teenagers gave birth in Puerto Rico, out of which 1,378 were girls less than 15 years old and 11,441 were between the ages of 16 and 19 years old.

According to St. Clair et al (2), early and continued prenatal care are considered by the medical community as necessary for the welfare of both, infant and mother. However, only between 25%-30% of all pregnant women in the United States seek prenatal care during the critical first trimester of pregnancy or do not complete an adequate number of prenatal visits. As reported by Polaud, Ager and Olson (3), in the United States, 9.1% of all pregnant women receive inadequate prenatal care and over 50.0% of the pregnant teenagers less than 18 years of age do not receive prenatal care at all. It is an established fact that pregnancy complications are more likely in women who do not receive prenatal care or who do not receive it until the third trimester of pregnancy. Vázquez and Rivera (4) indicated in their study, that the high proportion of low birth-weight babies and the high children mortality is due, in part, to inadequate prenatal care.

The correlation between prenatal care and a pregnancy's final result is an interest matter for the medical profession as well as for the public health sector since it represents an important measure in the prevention of immediate , or future damages, to the mother as well as the child. Even

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in the absence of disease, prenatal care appears to guarantee healthier pregnancies (5). In the public health field, specifically in the health education area, it is important to obtain information that contributes to design educational programs targeted to pursue that pregnant adolescents procure prenatal care in the first trimester of pregnancy. This will contribute to attain the optimum prenatal care of the mother as well as the infant. This assessment was aimed at describing the perceptions of a group of Puerto Rican pregnant adolescents regarding. the susceptibility, severity, benefits and barriers of adolescent pregnancy.

Method

This assessment was based on the Health Belief Model (HBM), developed in the 1950's by a group of social psychologists. This model permits the prediction of health-related behavior and provides variables that can be modified to produce changes in people's behavior. This effort represents the widest assessment focused at attitudes related to the practice of preventive measures and to the utilization of health services (6).

For this assessment, the following four dimensions of perception were defined:

Susceptibility - when the individual believes there might be at risk of contracting a disease or condition. These are risks perceived by pregnant adolescents.

Severity - when the individual perceives the seriousness of the condition, and evaluates the medical and clinical consequences (death, physical disability, etc.) and the possible social consequences (such as, inability to work for a period of time, to lose the job, to affect the family life, among others). This is the perception of complications of pregnant adolescents.

Benefits - when the individual believes the following: a) that she is susceptible to acquire the condition and that it may have serious consequences; b) that there are ways to avoid and prevent the condition or to make it less serious if it is acquired and; c) that the means to prevent or control that condition are affective and cannot be worse than the condition. Therefore, the individual can evaluate the benefits and effectiveness of recommended health actions to be followed (to continue treatment, to procure other services, etc.). This is the perception of the adolescents of the benefits they may have if they receive prenatal care.

Barriers - when the individual believes that the more susceptible she is to acquire the condition, the higher the social and organic consequences. If she believes that the recommended treatment has more barriers than benefits, it is difficult that she follows the recommended health practices. By contrast, if she believes in the effectiveness of the treatment, she will see less physical, psychological and economic costs related to the recommended practice and therefore, will adopt it. This is the perception of the barriers that prevents adolescents to request prenatal services on a timely fashion.

The assessment was conducted in June 1997, utilizing a non-probabilistic sample of 71 adolescents that receive prenatal care services at a hospital in the greater metropolitan area of San Juan, Puerto Rico. A explorative study with non experimental design was utilized for the assessment, since the primary objectives were to describe the perceptions of the susceptibility, severity, benefits and barriers of adolescent pregnancy of a group of pregnant adolescents. The data collection instrument was a two-parts self assessment questionnaire. The first part included questions that described the personal and sociodemographic characteristics of the participants. The second part contained questions targeted toward measuring the adolescent's perceptions of what in four different dimensions: susceptibility, severity, benefits and barriers.

A pilot test was conducted to improve the content, vocabulary, appearance and construction of the questionnaire. The content validity of the instrument was established by the judgement of experts in the gynecology, health education, and sociomedical research evaluation fields. Internal consistency reliability was assessed for the perception scale and subscales, and found to be adequate. Coefficient alpha values were 0.62, 0.68, 0.71 and 0.70 for susceptibility, severity, benefits and barriers, respectively. Internal consistency reliability was also adequate for the total scale (alpha=0.75). To the analysis were created the following perception levels, using the process described by Daniels (7):

Subscale	# items	Punctuation range	Perception Level
Susceptibility	6	6-24	low - 6-15; high - 16-24
Severity	6	6-24	low - 6-15; high - 6-15
Benefits	5	5-20	low - 5-14; high - 15-20
Barriers	17	17-68	low - 17-55; high - 56-68

For this assessment, descriptive statistics, such as: means, frequencies and percents were utilized to describe the population. Crosstabs tables were utilized to compare the different dimensions of the adolescent's perceptions, according to the trimester in which she initiated prenatal care.

Results

A total of 71 pregnant adolescents participated in the assessment. The median age was 17 years, with a range that fluctuated between 13 and 19 years. The group

included 63.2% pregnant adolescents in the 16-19 age group. Most of the adolescents were legally married (41.1%), whereas 30.0% indicated to be single. The remainder 28.6% of the group reported that they lived with their partner without being legally married. The education of 53.5% of the adolescents fluctuated between sixth and ninth grade, whereas 46.5% of the group have studied up to tenth grade or more. The assessment showed that 57.7% of the group lived in the urban zone of the Metropolitan area, whereas 42.3% lived in the rural zone. At the time of the assessment, 67.6% of the adolescents were unemployed, while 32.4% had a job. One of the areas that was explored in this assessment was the living arrangements of adolescents. It was found that 45.1% lived with the father of the baby, whereas 40.8% lived with relatives (Table 1).

Table 1. Sociodemographics Profile

Variables	n	%
Age (years)		
13	3	4.2
14	3	4.2
15	13	18.3
16	10	14.1
17	13	10.7
18	14	19.7
19	15	21.1
Median = 17 years		
Marital Status		
Single	21	30.0
Married	29	41.4
With their partner without Being legally married	20	28.6
Education		
Sixth	3	4.2
Seventh	9	12.7
Eighth	6	8.5
Ninth	20	28.2
Tenth	6	8.5
Eleventh	6	8.5
Twelfth	18	25.4
University	3	4.2
Residence		
Urban	41	58.0
Rural	30	42.0
Employment Status		
Employed	23	32.4
Unemployed	48	67.6
With Whom Did They Lived		
Family's bridegroom	7	10.0
Father's baby	32	45.1
Family's adolescent	29	40.8
Others	3	4.1

It was found that (54.9%) started prenatal care in the second trimester of pregnancy. It is important to point that 15.5% requested prenatal care in their sixth month of pregnancy. Specifically, 14.1% of these women sought prenatal care in their seventh and eighth month of pregnancy (Table 2).

Table 2. Pregnancy Trimester in Which Prenatal Care was Initiated

Month	n	%
1	1	1.4
2	13	18.3
3	8	11.3
4	16	22.5
5	12	16.9
6	11	15.5
7	9	12.7
8	1	1.4
9	0	0

The assessment showed that 50.7% of the participants had a moderate high susceptibility perception, whereas the remainder 49.3% of the group had a low susceptibility perception. Specifically, the findings also revealed that 67.6% of the adolescents did not know that babies of adolescent mothers are at a higher risk of low birth-weight that the babies of women older than 21 years (Table 3). In the same manner, Table 3, shows that 70.4% of the adolescents did know that babies of the adolescent mothers are in higher risk to be born before due date than the babies of women older than 21 years. Another interesting finding was that 70.4% of the adolescents disagreed with a statement declaring that adolescent mother's babies are at a higher risk to be born with mental retardation or any other disabling condition than those of women older than 21 years, thus having serious consequences for her and for her families.

A high severity perception was reported by 53.5% of the participants, while 46.5% of the group showed a low severity perception. It was found that 45.1% of the pregnant adolescents were in disagreement with a

Table 3. Participant's Responses in the Susceptibility Subscale.

	Agreement		Disagreement	
Premise	n	%	n	%
Adolescents have higher health risks during pregnancy than women over 21 years old.	43	60.6	28	39.4
Pregnant adolescents have higher risk of spontaneous abortion's than women over 21 years old	41	59.8	30	40.2
An inadequate nutrition during the pregnancy offers risks to my health and the health of my baby.	62	87.3	9	12.7
Adolescent's babies have higher risks of birth weight below 5.5 pounds than those of women over 21 years old	23	32.4	48	67.6
Adolescent's babies have higher risks of premature delivery than babies of women over 21 years old.	21	29.6	50	70.4
Adolescent's babies have higher risk of mental retardation or other disabling conditions than thoseof women over 21 years old	21	29.6	50	70.4

Table 4. Participant's Responses in the Severity Subscale.

	Agreement		Disagreement	
Premise	n	%	n	%
Adolescents have more complications during pregnancy than women older than 21 years.	39	45.1	32	54.9
To have an abortion due to complications during pregnancy would be very serious for my health.	54	76.1	17	23.9
Is very dangerous to my health and the health of my baby if I have an inadequate nutrition during pregnancy.	68	95.7	3	4.3
A birth weight of 5.5 pounds or less is dangerous for the health of my baby.	42	59.1	29	40.9
If my baby is born with mental retardation or other disability, it would have serious consequences for my baby and my family	31	43.7	40	56.3
If I have a premature delivery, it would be very dangerous for the health of my baby.	54	76.1	17	23.9

statement that declared that adolescents have more complications during pregnancy than women older than 21 years. Regarding having low birth-weight babies, almost half (40.0%) of the adolescents held the idea that this is not dangerous to the health of the baby. Another interesting finding was that most of the adolescents (56.3%), were in disagreement with the statement that declared that if the baby is born with mental retardation or any other disability, this would have serious consequences for her and for her family.(Table 4).

In general, 70.4% of the participants perceived that early prenatal care is highly beneficial, whereas the remainder 29.6% of the group had a low benefits perception. It was also found that 95.8% of the adolescents agreed with the concept that an adequate nutrition is helpful to the health of the mother and the baby (Table 5).

A low barriers perception was present in 60.6% of the participants, whereas 39.4% had a high barriers perception. Individual statements analysis showed that 54.9% of the adolescents expressed that they did not seek prenatal health care because they did not know that they were pregnant. In the same manner, 25.4% of the adolescents indicated that they did not request prenatal services because they did not want anybody to find out that they were pregnant. Moreover, 71.9% of the group indicated that they could seek this assistance without the consent of their parents. Regarding the fears of pregnant adolescents, the assessment showed that 33.8% of the group were afraid of telling their families of their pregnancies because of fear of rejection. In addition, 26.7% of the adolescents indicated that they were afraid of telling their families because they might make them have an abortion. In regards to their partners, 18.3% of the adolescents were afraid of telling them about their pregnancies because they thought that they might be annoyed by learning about their pregnancies and might leave them. Another finding revealed that the adolescent was afraid of medical procedures. Fear to the pelvic exam was expressed by 28.2% of the group, while 33.8% of the adolescents feared that the physician could find something

Table 5. Participant's Responses in the Benefits Subscale

	Agreement		Disagreement	
Premise	n	%	n	%
The health providers staff (doctor, nurse, and others) can help me to avoid complications during the pregnancy.	69	97.2	2	2.8
Starting prenatal care during the first trimester can help my health and that of my baby.	63	88.7	8	11.3
An adequate nutrition during pregnancy can help my health and the health of my baby.	68	95.8	3	4.2
Doing moderate exercise during pregnancy is healthy.	60	84.5	11	15.5
Complying with all prenatal appointments will help me have a healthy pregnancy.	63	88.8	8	11.2

abnormal. Furthermore, 33.8% of the adolescents expressed that they felt ashamed of the fact that the doctor saw their genitalia. It was also found that 31.0% were fearful of having to economically depend on their parents (Table 6).

Table 7, shows the results obtained when the dimension of the perceptions according to the pregnancy trimester in which the adolescent began prenatal care are compared. It is important to notice that adolescents that began their prenatal care in the first trimester of pregnancy revealed a low susceptibility perception, thus, perceiving a low-risk pregnancy. It was also observed that the later the prenatal care began, the higher the susceptibility perception.

Table 6. Participant's Responses in the Barriers Subscale

	Agreement		Disagreement	
Premise	n	%	n	%
I did not come earlier for prenatal care because I did not know I was pregnant .	39	54.9	32	45.1
I did not want anyone to know I was pregnant.	18	25.4	63	74.6
I believed that I could not obtain health services without the consent of my family.	51	71.9	20	28.1
I did not talk to my family about my pregnancy because I feared rejection.	24	33.8	47	66.2
I feared that my family would make me abort.	19	26.7	32	73.3
I feared that the baby's father could be annoyed with me.	13	18.3	58	81.7
I feared my partner would abandon me.	13	18.3	58	81.7
I was afraid the pelvic test would cause pain..	20	28.2	51	71.8
I was afraid the doctor would find something abnormal.	24	33.8	47	66.2
Shame that the doctor saw my genitalia.	24	33.8	47	66.2
Fear to become economically dependent on my family.	22	31.0	49	69.0
Fear to fail in my studies.	15	21.2	56	78.8
I lacked transportation.	15	21.2	56	78.8
I had to wait too much for transportation.	13	18.3	58	81.7
The transportation costs are high.	13	18.3	58	81.7
I had to care other children.	27	38.0	44	62.0
I had to wait too much in the Clinic.	18	24.3	53	74.7

The severity perception among the adolescents showed an interesting result. It was observed that most of the adolescents who began prenatal care in their last trimester of pregnancy (60.0%) had a low severity perception. Perhaps this explains why they began prenatal care later in their pregnancies. However, upon observing the benefits perception, it was found that for all the trimester, most of the adolescents manifested a high perception (Table 7).

Table 7. Comparison between Susceptibility, Severity, Benefits and Barriers Subscale According to the Pregnancy Trimester in Which the Participant Initiated Prenatal Care.

	Trimester					
	First (n=22)		Second (n=39)		Third (n=10)	
	High	Low	High	Low	High	Low
Subscale	%	%	%	%	%	%
Susceptibility	40.9	59.1	56.4	43.6	50.0	50.0
Severity	54.5	45.5	56.4	43.6	40.0	60.0
Benefits	63.6	36.4	74.4	25.6	70.0	30.0
Barriers	50.0	50.0	38.5	61.5	20.0	80.0

Discussion

The results analysis showed that more than half of the adolescents who participated in the assessment were in the 16 to 19 age group. Legally married was the most frequent civil status found in this group. This is contradictory to the findings of Vázquez Calzada (8), who indicated that the age of most adolescent mothers fluctuates between 18 and 19 years and lived with their partner without legally married. This assessment also found that over 20.0% of the participants had an education lower than ninth grade which is contrary to the findings of the Puerto Rico Department of Health (1), that indicates that in 1991, a little less than half of adolescent mothers in Puerto Rico had an education lower the ninth grade.

It was also found that most the pregnant adolescents lived in the urban area. Vázquez Calzada (8), on the contrary, indicated that the proportion of adolescent mothers is higher in the rural area. It is important to note that more than half of the pregnant adolescents under study informed to be living with their family or with their partner=s relatives. According to related literature, pregnant adolescent are very dependent, although they show an attitude of emancipation or isolation. Therefore, parental support plays an important role number of these youngsters drop out of school and become economically dependent on their families and/or the state.

In regards to the months of pregnancy that the adolescent had at the moment of procuring prenatal care, it was found that more than half of the group began prenatal care in the second trimester. According to Kugler

(9), in spite of the amount of available information on prenatal care, and on the quality of the pregnancy final product, key factors have been identified as responsible for the hesitancy of adolescents to seek prenatal care on timely fashion. Many times, lack of ability to face the economic situation is the most important reason for the mother not obtain adequate and necessary prenatal care. In the same manner, some of the factors that could cause pregnant adolescents to give up in their attempt to seek needed prenatal care are the lack of education, civil status, age of the mother and family problems. According to St. Clair and Smeriglio (2), most adolescent pregnancies are complicated due to inadequate prenatal care as a result of its late initiation. Between one fourth and one third of all the pregnant women in the United States start prenatal care after the critical first trimester. According to a study conducted in Puerto Rico (10), half of the adolescent mothers began prenatal care in their second trimester of pregnancy. One sixth of the group began prenatal care in their third trimester.

In general, the risk susceptibility perception during adolescent pregnancy does not seem to be an important factor in relation to the trimester in which the adolescent received prenatal care for the first time. It was observed that the majority of the group had a high perception on their health risks. For the most part, those adolescents who had a high perception care late in their pregnancies (second and third trimester). This is opposite to what is found in related literature, which indicates that early prenatal care may happen when the adolescent has a high susceptibility perception. MacDonald and Coburn (11) indicated that some youngsters, even knowing that they may face possible risks during pregnancy, did not procure prenatal services on time.

A significant finding of this study is that the adolescents presented a lower susceptibility perception in relation to their babies to be born before time than the perception of women than the babies of women older than 21 years. Also they showed a lower perception in relation to having a higher risk of delivering low birth-weight babies than the babies of women older than 21 years. These adolescents did not perceive any significant risks for their babies, although they perceived some risks for their own health. This could explain the reason why prenatal care was less important for these mothers, who sought prenatal care late in their pregnancies.

Regarding severity perception, the adolescents had a high severity perception in relation to the health complications during pregnancy. It was found that those adolescents who began prenatal care in their third trimester has the lowest levels of severity perception. Bluestein and Rutledge (12) pointed out that early prenatal care could occur when the susceptibility and severity perceptions are high. This may explain why these mothers sought prenatal care so late in their pregnancies.

It must be noted that adolescents who were not aware of their pregnancies and those who did not want others to know about their pregnancies presented a high barriers perception. Also more than half of these girls perceived barriers because they thought that they needed parental consent to receive health services. Others did not dare tell their family that they were pregnant, fearing their family might make them have an abortion. Furthermore, less than half of the adolescents were concerned with the fact that the father of their baby might be annoyed or leave them when they discovered that they were pregnant.

These girls beleived that the pelvic exam was painful, that the physician could find other abnormalities and they were embarrassed of exposing their genitals to the physician. Bluestein and Rutledge (12) indicated that negative attitudes towards pregnancy constitute the most influential barrier to receive late prenatal care. In the same manner, Haper (13) found that oftentimes, adolescents are prone to seek prenatal care late in their pregnancies because they do not recognize the pregnancy symptoms or do not wish to accept the reality that they are pregnant. According to Cooney (14), the most important reasons stated by pregnant adolescents for inadequate prenatal care were the attitudes towards physicians and the late admission of the pregnancy. According to Cartoof (15), adolescents tend to deny the reality of the pregnancy. This make them avoid or delay the initiation of prenatal care. The barriers perception concept is the "most important and powerful" dimension of the HBM. Yet, some have indicated that perceptions are not a research measure (16). According to the HBM, the perceived barriers of a sector tends to reduce the possibilities of procuring prenatal services on time. Finally, it is possible that there was excessive fear to face pregnancy among the subjects under study regarding the reaction of their parents, and to medical procedures, that influenced there decision to seek prenatal healthcare late in their pregnancies.

In light of the assessment findings, the rise in the number of adolescents who become pregnant is alarming, but their collective tardyness in procuring prenatal care is a major cause for concern. It is equally disturbing the fact that 30.0% of these pregnant teenagers are single mothers, and that more than half of the assessment participants were unemployed and had a low education. These findings show that in order to deal with the complexity of adolescent pregnancy, handling the problem needs to go beyond the clinical aspect and include an ongoing understanding of adolescents in their social, emotional and physical process.

When considering only the physical nature of the adolescent pregnancy problem, its often disregarded that this is a serious crisis, with deep roots and with a more profound effect than the ordinary management a medical problem. Adolescent pregnancy requires comprehensive management in order to approach not only the medical aspects of the condition but also the psychosocial aspects that may influence the course of a pregnancy, especially with teenagers.

The clinical, social and economic aspects of adolescent pregnancy are frequently considered a serious problem in Puerto Rico, due to the fact the most pregnant adolescents economically depend on their parents and/or the government. Many pregnant adolescents believe that they cannot continue their education. In 1986, the financial cost of adolescent pregnancy to the community was approximately 18 million dollars. The annual cost of low birth-weight babies of adolescent mothers, is estimated in one billion dollars (17).

To compensate the negative consequences of adolescent pregnancy, those which are not necessarily clinical in nature, it is vital to reinforce the positive consequences and perceptions of pregnancy, thus motivating adolescents in their process to succeed in life. An intense education must be provided to adolescents on the possible complications, symptoms and the psychosocial consequences of pregnancy. Of utmost importance is development of a preventive educational program based on the adolescent's emotional and educational needs related to the problem of unplanned pregnancies.

The assessment, specifically demonstrated the need to create permanent educational programs in hospital and schools. These programs should not be implemented to conduct sporadic conferences or lectures, but to carry out a day-to-day education program according to the adolescent's current and real needs. For example, with psychosocial problems are not banished upon leaving a conference nor with educational material. Adolescents need the time and effort of health professionals to help them, and their babies, to attain better quality of life.

It is important that health professionals develop basic educational strategies to procure effective behavior modification in adolescents. The educational work cannot be delegated. It is the Health Educator, the professional with the skills and needed educational techniques and strategies to plan and implement educational programs, as well as to develop the health staff skills to work with the behavior modification of pregnant adolescents. Adolescent education is important because it is the pathway for these youngsters to seek help on time, not only clinical services, but also social and psychological assistance.

Resumen

Los embarazos en adolescentes se reconoce como un problema serio y complejo en nuestra sociedad.. El Departamento de Salud de Puerto Rico ha reportado consistentemente un aumento en los casos de adolescentes embarazadas.. Esta evaluación fue dirigida a describir las percepciones de un grupo de adolescentes embarazadas puertorriqueñas hacia la suceptibilidad, severidad, beneficios y barreras del embarazo en adolescentes. Se tomó una muestra no probabilística de 71 adolescentes que recibían servicios prenatales en un Hospital del área Metropolitana de San Juan, Puerto Rico. Estadísticas descriptivas fueron utilizadas para describir la población de estudio. Análisis de tablas cruzadas fueron utilizadas para comparar las diferentes dimensiones de la percepción de las participantes según el trimestre que comenzaron su cuidado prenatal. Un 50.7% de las participantes tuvieron una percpeción de suceptibilidad moderada y un 53.5% tuvo una alta percepción de severidad. En general, 70.4% de las participantes percibieron beneficios si reciben cuidado prenatal y 60.0% tuvo una percepción de barreras baja. Esta evaluación específicamente demostró la necesidad de crear programas educativos permanentes en los hospitales y las escuelas. Es importante que los profesionales de la salud desarrollen estrategias educativas básicas y efectivas dirigidas a la modificación de conductas en las adolescentes.

Acknowledgment

The authors would like to thank all the persons an institutions that provided the necessary information and support for carrying out this study, especially Norma Pérez and Ivelisse García for their technical support.

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