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Psychological and Social Effects of Pregnancy in Unmarried Young Women in Bui, Northwest, Cameroon

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Abstract: Unmarried status has been associated with low psychological and social wellbeing among young pregnant women, who are very likely to have unintended pregnancies. The current study investigated the psychological and social effects of pregnancy in unmarried young women aged 15 to 24 years in Bui, Northwest Cameroon. It was a cross-sectional facility-based survey and one hundred and eighty-four unmarried young women in six health facilities who met the inclusion criteria were recruited. Data were collected using an interviewer-administered, semi-structured questionnaire and analysed with the aid of SPSS 21.0. Univariate analysis was done for frequencies, means and standard deviations while hypotheses were tested using Chi square test and logistic regression. P value was set at $p< 0.05$. More than half (52.2%) of respondents were aged 20 to 24 years, 54.3% had never used a contraceptive and 82.1% reported their pregnancy was unplanned. Over half (57.1%) of the respondents reported high levels of anxiety and depression related to their pregnancy, 57.6% had a high perception of stigma and discrimination and 61.8% stopped schooling after discovering they were pregnant. Multivariate analysis revealed that compared to those who wanted their pregnancy, those who did not want their pregnancy had higher odds of experiencing high levels of anxiety and depression (AOR 6.38, 95% CI 2.93-13.88, p=0.00). It also showed that those who were not in relationship with their baby's father had higher odds of perceiving high levels of stigma and discrimination (AOR 2.22, 95% CI 1.07-4.62, p=0.03). In conclusion, policy makers should intensify efforts to prevent unintended pregnancy among young unmarried women. They should not concentrate all efforts toward preventing unsafe abortion due to unwanted pregnancy, but focus attention also on how to help young women who choose to keep their pregnancy. Adequate and multidisciplinary supervision and support during pregnancy, labour and postpartum period will help promote psychosocial wellbeing among this group. The male partners of pregnant young women should also be empowered to take responsibility.

Keywords: Anxiety and Depression, Cameroon, Pregnancy, Stigma and Discrimination, Unmarried Young Women

1. Introduction

Sexual activity among young people remains high worldwide with high and increasing premarital sexual activities among them being documented in several studies in Sub-Saharan Africa [1-3]. Although there has been a decline in adolescent pregnancy rates across some regions of the world, they are still high in some countries and the proportion of births by unmarried adolescents is increasing in some countries [4]. The age of sexual debut seems to be declining and age at first marriage is increasing in many sub-Saharan African countries; this has led to an increase in the period of time between the onset of puberty and first marriage, further increasing the likelihood of premarital sex and pregnancy [5-7]. Increasing opportunities for girls to achieve secondary education and postpone marriage also lengthens the period when women risk being single, pregnant

and exposed to sexually transmitted infections (STIs) [6].

A woman must be physically, psychologically and socially ready for pregnancy. Unfortunately, many young women who are sexually active and are not ready for pregnancy have a high unmet need for contraception which predisposes them to unintended pregnancy [8, 9]. Availability and proper use of contraception can reduce the number of pre-marital births among young unprepared women dramatically [10]. The World Health Organization (WHO) Fact Sheet on Adolescent Pregnancy in 2014 estimated that 16 million births in low and middle-income countries were from adolescent girls many of which occurred in unmarried women and were unplanned [11]. According to the 2011 Cameroon Demographic and Health Survey, close to three quarters (73.9%) of the 23.3% adolescent women population in Cameroon were single and sexually active with a low contraceptive prevalence rate (modern method) of only 12.2% [12]. Twelve percent of all births in Cameroon have been reported to be from adolescent mothers and a high proportion of single pregnant women have been reported in other studies [12-14].

Premarital sexual behaviours such as early sexual debut and premarital pregnancy are stigmatized in many sub-Saharan African settings as they are viewed to deviate from the norm. This is often from the belief that sexual union is expected to occur within marital relationships [9]. Among the risk factors for poor pregnancy outcomes in young women, singleness has been reported [3]. A large proportion of unmarried young mothers face physical, psychological, and social problems due to pregnancy with fear, anxiety, dropping out of school, stigmatisation and discrimination being common [8, 15-17]. Due to physical and psychological immaturity, pregnancy in adolescents contributes to many of their health problems. In addition to unmarried status and unintended pregnancy, other factors that have been associated with low psychosocial wellbeing in young pregnant women include unemployment and low income [18].

Studies have shown that pre-marital pregnancy in young women is highly stigmatized, and young mothers portrayed negatively even in the media with stigma being “real or perceived” [16-19]. Stigmatization is often rooted in the common belief that young people should not be having sex and young women should not be pregnant or be parents, as they are considered not equipped for motherhood. The experience of stigma leads to feelings of stress and social isolation which can be intensified by rejection from their partners who may have earlier promised marriage, who deny responsibility for the pregnancy, denying them marriage and even financial support [8, 15].

For most pregnant young women there is a truncation of formal education with the young woman dropping out of school or being expelled in settings where pregnant women are not allowed in formal education systems. Dropping out of school can be an attempt to cope with motherhood or a means of escaping the stigma from their peers and teachers. It is not uncommon for pregnant in-school adolescents to be expelled or ridiculed, while those who are employed may lose their jobs. Policies that encourage education of the young woman has often focused on discouraging those that are in school from being pregnant with little or no attention given to those who get pregnant while in school [20]. Dropping out of school can intensify the psychological distress and accompanying low self-esteem, which lowers their ambitions due to self-dissatisfaction, dissatisfaction with their environment and as their opportunities reduce. These women can further experience insecurities in how to get a livelihood as a disruption in education reduces their opportunities in the labour market and income earning capacities [21]. The problems of pregnancy in young women is not only theirs to reckon with, but affects the society as a whole as it increases the level of poverty, unemployment and low literacy rates which have negative effects on the society [18].

This study was thus carried out to identify the needs of pregnant unmarried young women in Bui, Northwest Cameroon by determining the psychological and social effects of pregnancy on them, with a view to proffer appropriate preventive and treatment methods.

2. Methods

2.1. Study Location

This was a study conducted among 184 unmarried women in Bui division, one of the five divisions in the North West Region of Cameroon. A large portion of the potential labor force in the division is unemployed. Bui is made up of three health districts: Kumbo West, Kumbo East and Oku. These health districts consist of 42 health areas with 74 health facilities.

2.2. Study Population and Study Design

This cross-sectional study consecutively recruited women aged 15-24 years from six health facilities in Bui, who were currently pregnant or had a baby under 9 months of age who voluntarily consented to participate. Six health facilities which were randomly selected from six health areas which were also randomly selected from three health districts of Bui included Kitiwum, Sop, Vekovi and Jikijem integrated health centres; the Banso Baptist Hospital and the Elak District Hospital. Participants were recruited from among women attending antenatal clinic, infant welfare clinic and those in the labour or postpartum ward in the above facilities from July to October 2017.

2.3. Data Collection

Data were collected using an interviewer-administered, semi-structured questionnaire. Potential participants were identified from the antenatal, infant welfare, labour and delivery registers and approached for their consent. Data were then collected from those who gave their consent including sociodemographic characteristics, relationship characteristics, reproductive and contraceptive behaviours, psychological effects (anxiety and depression) and social effects (stigma and discrimination and termination of schooling or employment).

2.4. Measurements

The questionnaire used in this study was adapted from documented tools consisting of Center of Epidemiology Studies Depression Scale (CES-D) to assess for anxiety and depression and the Stigma Scale to assess for stigma and discrimination [22, 23]. These were modified with respect to reviewed literature and the objectives of this study. The main dependent variables of this study were anxiety and depression, stigma and discrimination; disruption of education and disruption of employment.

The measure of anxiety and depression was obtained by calculating a composite score for anxiety and depression by assigning values to the responses taking into consideration whether the questions were positively or negatively worded. The maximum score of 24 was obtained and dichotomized at cut off point of 14 as the mean anxiety and depression was 14.3. Thus, those who scored 14 and above were categorized as high anxiety and depression; while those who scored below 14 as low anxiety and depression.

The measure for stigma and discrimination was obtained by using the composite score of perception of stigma and discrimination by assigning values to the responses and the scores were summed up and the maximum score of perception of stigma and discrimination was 40. This was dichotomized at cut off point of 23 using the mean perception of stigma and discrimination which was 22.9. Thus, those who scored 23 and above were categorized as having high perception of stigma and discrimination, while those who scored below 23 as low perception of stigma and discrimination.

Disruption of education or employment were assessed by asking the respondents who were enrolled in a school or employed, if they continued with their education or employment after discovering they were pregnant. The responses were either "Yes" or "No".

2.5. Data Analysis

Data were entered, cleaned and analysed with the aid of Statistical Package for Social Sciences (SPSS) 21.0 version. Univariate frequency distributions, percentages, means and standard deviations were calculated to describe the collected data; these are presented in tables and figures. Bivariate analysis was done to check for associations between categorical variables using Chi-square (x^2) tests. Multivariate logistic regression was done to identify variables that were independently associated with feelings of anxiety and depression and stigma and discrimination. Variables used in this model were those with $p<0.25$, that is, those that showed a significant association with the outcome variables and other important variables from the bivariate analysis. All statistical tests were considered significant at $p<0.05$.

2.6. Ethical Approval

The proposal was reviewed and approved by the University of Ibadan / University College Hospital (UI/UCH) Ethics Committee (UI/EC/17/0090) and the Cameroon Baptist Convention Health Services' Institutional Review Board (IRB2017-15). Authorization was also obtained from the Northwest Regional Delegation of Health. Pregnant young women under 18 years of age were able to provide consent as they were considered emancipated adults in the context of this study; this was approved for the study by the two ethical review boards.

3. Results

3.1. Characteristics of Study Participants

The pregnant 184 young unmarried women averaged 19.97 + 2.44 years of age (range 15 to 24 years), with 52.2% of the respondents aged 20 to 24 years. More than four-fifths (81%) of the respondents had attained the secondary level of education; 95.7% were unemployed; 49.5% were Roman Catholic and 52.7% of the Nso tribe. More than half of respondents (52.2%) had delivered index pregnancy (child under 9 months) while 47.8% were currently pregnant. A majority of respondents (82.1%) did not plan to get pregnant; however, 51.1% wanted the pregnancy after it occurred. Less than a quarter of the respondents (22.8%) had ever considered terminating the pregnancy of which 11.9% attempted termination. Age at sexual debut averaged 17.32 + 2.43 (ranging between 12 to 24 years); 44.6% of respondents had more than one sexual partner since sexual debut. Majority (84.8%) of respondents had ever heard about contraceptives and 54.3% had never used any contraceptive method. More than half (56.0%) of respondents reported continuing a relationship with their baby's father (Table 1).

Table 1. *Characteristics of young unmarried pregnant women.*

Variables (n=184)	Frequency	Percentage (%)
Age group (in years)		
15-19	88	47.8
20-24	96	52.2
Highest level of education		
Primary	14	7.6
Secondary	149	81
Tertiary	21	11.4
Occupation		
Employed	8	4.3
Not employed	176	95.7
Religion		

Variables (n=184)	Frequency	Percentage (%)
Roman Catholic	91	49.5
Protestant (Baptist, Presbyterian)	79	42.9
Islam/Muslim	6	3.3
Others	8	4.3
Tribe		
Nso	97	52.7
Oku	75	40.8
Noni	2	1.1
Others	10	5.4
Age at first sexual intercourse		
Mean (+SD)	17.32 ± 2.43 years	
Range	12 to 24 years	
Previous use of contraceptives		
Yes	84	45.7
No	100	54.3
Respondent in relationship with baby's father		
Yes	103	56
No	81	44
Pregnancy status		
Currently pregnant	88	47.8
Already delivered (child <9 months)	96	52.2
Whether pregnancy was planned		
Yes	33	17.9
No	151	82.1
Whether pregnancy was wanted		
Yes	94	51.1
No	90	48.9
Ever considered terminating the pregnancy		
Yes	42	22.8
No	140	76.1
Non response	2	1.1

3.2. Psychological Effects of Pregnancy in Unmarried Young Women

More than half of the study participants, 105 (57.1%) had high levels of anxiety and depression related to the pregnancy after a composite score was obtained from all the questions that assessed anxiety and depression. Some characteristics were commonly noted in these participants related to their feelings of anxiety and depression. These included problems concentrating on what they were doing (with 51.6% of respondents having this problem most of the time); feeling fearful (53.3% feeling so most or all of the time), feeling sad (42.9% experiencing sadness most or all the time) and thinking they were failures (44.0% thinking so most or all the time) (Table 2). Respondents were also asked on their perception of their parents' feelings related to their pregnancy of which 51.6% reported anger, 50.0% disappointment and 31% perceived their parents were shocked (multiple responses were allowed) (Figure 1).

Table 2. *Respondents' feelings of anxiety and depression.*

Variables (n=184)	Rarely or none of the time		Some or a little of the time		Occasionally or a moderate amount of time		Most or all of the time	
	N	%	N	%	N	%	N	%
I did not feel like eating; my appetite was poor.	41	22	40	22	35	19	68	37
I had trouble keeping my mind on what I was doing.	32	17	29	16	28	15	95	52
I thought my life had been a failure.	46	25	28	15	29	16	81	44
I felt fearful.	26	14	24	13	34	19	100	54
I sometimes cried.	54	29	31	17	26	14	73	40
I felt that people disliked me.	49	27	39	21	46	25	50	27
I talked less than usual.	38	21	33	18	51	28	62	34
I felt sad.	38	21	30	16	37	20	79	43

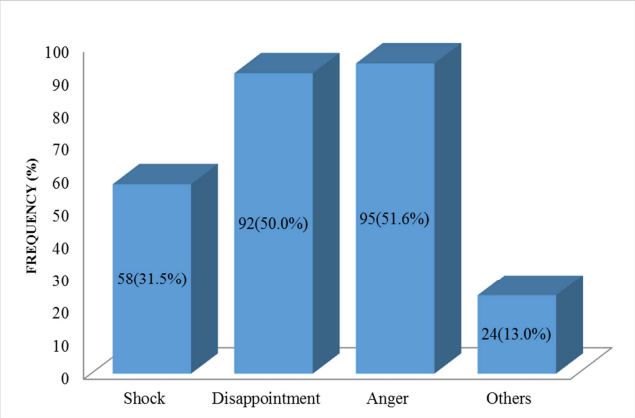

Figure 1. *Perception of parents' feelings about pregnancy by young unmarried pregnant women.*

3.3. Factors Associated with Feeling of Anxiety and Depression

Table 3 shows that there was no significant association between the socio-demographic variables and feelings of anxiety and depression. However, whether the pregnancy was planned (x^2=21.097, p<0.001), whether the pregnancy was wanted (x^2=45.506, p<0.001) and respondent's current relationship with their baby's father (x^2=14.696, p<0.001) were significantly associated with the feelings of anxiety and depression. In a multivariate analysis, whether the pregnancy was wanted remained statistically significant (AOR 6.380, 95%CI 2.932-13.883, p=0.000). It revealed that those who did not want their pregnancy were six times more likely to experience high levels of anxiety and depression.

Table 3. *Factors associated with feelings of anxiety and depression in unmarried young pregnant women.*

Characteristics	Anxiety and depression N (%)		X^2 (p-value)	Multivariate regression	
	High	Low		Odds ratio (95% CI)	p-value
Age (in years)					
15-19	53 (60.2)	35 (39.8)	0.688		
20-24	52 (54.2)	44 (45.8)	(0.407)		
Highest level of education					
Primary	9 (64.3)	5 (35.7)	1.089		
Secondary	86 (57.7)	63 (42.3)	(0.580)		
Tertiary	10 (47.6)	11 (52.4)			
Religion					
Roman Catholic	53 (58.2)	38 (41.8)	1.818		
Protestant	42 (53.2)	37 (46.8)	(0.611)		
Islam/Muslim	4 (66.7)	2 (33.3)			
Others	6 (75.0)	2 (25.0)			
Pregnancy planned					
Yes	7 (21.2)	26 (78.8)	21.097	1.00	0.210
No	98 (64.9)	53 (35.1)	(0.000)*	1.920 (0.693-5.316)	
Pregnancy wanted					
Yes	31 (33.0)	63 (67.0)	45.506	1.00	0.000*
No	74 (82.2)	16 (17.8)	(0.000)*	6.597 (3.077-14.145)	
Considered terminating pregnancy					
Yes	29 (69.0)	13 (31.0)	3.447	1.232	0.634
No	74 (52.9)	66 (47.1)	(0.063)	1.00 (0.522-2.906)	
Respondent still in relationship with baby's father					
Yes	46 (44.7)	57 (55.3)	14.696	1.00	0.193
No	59 (72.8)	22 (27.2)	(0.000)*	1.646 (0.777-3.485)	

*p<0.05 (Significant) CI – Confidence interval 1.00- Reference category.

3.4. Social Effects and Factors Associated with Pregnancy in Unmarried Young Women

More than half of the respondents, 106 (57.6%) perceived high levels of stigma and discrimination from the final scores from the stigma scale. Most of the respondents (92.4%) were students when they got pregnant; 61.8% did not continue with their schooling and 80% of respondents who did not continue with school had voluntarily dropped out.

Table 4 shows that age (x^2=7.721, p=0.005) had a statistically significant association with the perception of stigma and discrimination. Whether the pregnancy was planned and whether it was wanted both had a statistically significant association with the perception of stigma and discrimination, (x^2=12.277, p<0.001) and (x^2=11.076, p=0.001) respectively. There was a significant association between considering an abortion and the perception of stigma and discrimination (x^2=4.550, p=0.033). The respondents' current relationship with their baby's father also had a significant association with the perception of stigma and discrimination (x^2=16.064, p<0.001). Following a multivariate analysis, a current relationship of the woman with their baby's father after they got pregnant remained significantly associated with the perception of stigma and

discrimination. Those who were not currently in a relationship with their partners were two times more likely to report a high perception of stigma and discrimination (AOR 2.224, 95%CI 1.071-4.616, p=0.032).

Table 4. *Factors associated with the perception of stigma and discrimination in young unmarried pregnant women.*

Characteristics	Stigma and discrimination N (%)		X^2 (p-value)	Multivariate analysis	
	High	Low		Odds ratio (95% CI)	p-value
Age (in years)					
15-19	60 (68.2)	28 (31.8)	7.721	1.789	0.082
20-24	46 (47.9)	50 (52.1)	(0.005)*	1.00	
				(0.928-3.4480)	
Highest level of education					
Primary	10 (71.4)	4 (28.6)	1.954		
Secondary	86 (57.7)	63 (42.3)	(0.376)		
Tertiary	10 (47.6)	11 (52.4)			
Religion					
Roman Catholic	46 (50.5)	45 (49.5)	7.793		
Protestant	51 (64.6)	28 (35.4)	(0.050)		
Islam/Muslim	2 (33.3)	4 (66.7)			
Others	7 (87.5)	1 (12.5)			
Pregnancy planned					
Yes	10 (30.3)	23 (69.7)	12.277	1.00	0.323
No	96 (63.6)	55 (36.4)	(0.000)*	1.622	
				(0.622-4.234)	
Pregnancy wanted					
Yes	43 (45.7)	51 (54.3)	11.076	1.00	0.211
No	63 (70.0)	27 (30.0)	(0.001)*	1.58	
				(0.772-3.237)	
Considered terminating pregnancy					
Yes	30 (71.4)	12 (28.6)	4.55	1.601	0.252
No	74 (52.9)	66 (47.1)	(0.033)*	1.00	
				(0.715-3.587)	
Respondent still in relationship with baby's father					
Yes	46 (44.7)	57 (55.3)	16.064	1.00	0.015*
No	60 (74.1)	21 (25.9)	(0.000)*	2.391	
				(1.189-4.808)	

*p<0.05 (Significant) CI- confidence interval 1.00- Reference category.

4. Discussion

This study was carried out to investigate the psychological and social effects of pregnancy in unmarried young women in Bui Northwest Cameroon. It showed that high levels of anxiety and depression was common among these women with many of them losing concentration on tasks, feeling fearful and sad. These reactions could be due to the fear of parental and community reaction and sanctions as in some communities, a pregnant unmarried young woman is regarded as a disgrace to the family. In addition, some communities frown at premarital pregnancy and young women with premarital pregnancy are said to have a reduced chance of getting a husband, which can contribute to their feeling of anxiety and depression. Similar studies have reported psychological distress in unwed young pregnant women and in some settings, fear of a lesser likelihood of getting married in the future [8, 10, 16, 24-26].

In addition to fear of parental sanction, the fact that most of these respondents were still students, the fear of interrupting education could lead to feelings of anxiety and depression. In young women who had great educational and career ambitions these reactions could result from seeing the pregnancy as a barrier to achieving their dreams. The proportion of young women who experienced psychological distress in this study is higher than that reported in a similar study by Wilson-Mitchell and colleagues among pregnant adolescent mothers in Jamaica [26]. This result is however contrary to those in another study among young unwed pregnant women currently living in a shelter home in Kuala Lumpur, in which respondents generally had high levels of psychological wellbeing [27]. This was probably due to the support these women received in the shelter home.

This study showed that the intendedness of the pregnancy (whether it was wanted or not) had a significant association with feelings of anxiety and depression. Those who did not want their pregnancy were six times more likely to experience high levels of anxiety and depression than those who wanted it. This finding is in line with findings of other studies that reported that unintended birth had negative effects on a mother's psychological well-being and preceding lower levels of psychological well-being during pregnancy [25, 26, 28]. Although many women look forward to the

experience of motherhood, it is usually accompanied by several physical and psychological changes and social challenges. This requires that a woman be well prepared physically, psychologically, socially and financially before getting pregnant in order to be able to cope with the demands of pregnancy, childbirth and child rearing. The absence of such preparation can lead to several forms of distress including anxiety and depression.

This study further revealed that more than half (57.6%) of the women felt stigmatized and discriminated upon because of their pregnancy. Cultural and religious barriers arising from the association of pregnancy in unmarried young women with immorality can contribute greatly to the stigma and discrimination experienced by these women. Unmarried pregnant young women tend to be discriminated against by their families, friends, and even health care providers and the society, especially in places where premarital pregnancy is highly discredited. Several other studies have documented the real and perceived stigmatisation of young mothers by their communities, causing the young mothers to feel their lives are being publicly scrutinized [17, 19]. A study carried out in Nigeria reported stigma and discriminatory attitudes among pregnant adolescents which can intensify their psychological distress and other serious effects like dropping out of school [29].

In this study, 92.4% of respondents were students when they got pregnant, however, 61.8% did not continue with schooling after they discovered they were pregnant. Majority (80%) of these women who did not continue with schooling dropped out of school voluntarily and not from expulsion. This is similar to another study which revealed that, 97% of the participating young women were students when they conceived and 57% discontinued their education due to pregnancy [26]. The decision to drop out of school can be due to fear of stigma and discriminatory attitudes from teachers and peers and the stress of the pregnancy. The high prevalence of dropping out from school compared to being expelled (80% vs 20%) shows that even in settings where pregnant women are allowed in school, some of these women will still discontinue their education. This finding is in line with a report from South Africa where many girls still drop out from school even with laws that permit pregnant learners to stay in school [10]. Terminating education in the long term may have serious consequences on these young women as a lack of education can greatly reduce their work prospects leading to low levels of employment and income. Termination of education has also been reported to intensify the psychological distress they experience [21].

This study shows an association between the respondent's current relationship with her partner (baby's father) and the perception of stigma and discrimination. It showed that those who were not currently in relationship with their partners were two times more likely to report high levels of stigma and discrimination than those in relationship with their partners. The physical presence of a partner or when these young women are able to make it known to others that they are in a relationship has been noted to reduce the negativity that is associated with being young and pregnant [8, 15]. The willingness of the young woman's partner to take responsibility for the pregnancy has been reported to have positive effects on the way the woman views her pregnancy. Sometimes these pregnant women continue in relationship with their partners and even get married before the baby is born. In some communities, in order not to be considered promiscuous and in order to reduce the shame and stigma of premarital pregnancy, a quick marriage is organised with their partners so that eventually the pregnancy grows within a marital relationship with such unions becoming a source of emotional and social support. [8], The absence of a relationship with their baby's father has been noted to increase a young woman's risk of mood disorders [28].

This study was not without limitations; even though "termination of employment" was included as a study variable, only one respondent gave a positive response to loss of job, hence this was not considered for analysis. Being a cross-sectional study, causal inferences between the psychological and social effects and their correlates cannot be made. Young women especially those who had delivered already, were asked to recall their feelings and experiences, which could lead to recall bias. Efforts to reduce this bias however, was by limiting selection of participants to those still pregnant or who delivered less than 9 months prior to the study.

Suggestions for future research will include those which refine some of the concepts in this study; a qualitative study to explore the psychological and social effects of pregnancy in unmarried young women in Cameroon. Other studies will attempt to find out the long-term consequences of pregnancy among unmarried young women in Cameroon.

5. Conclusion

The data obtained in this study indicate that there is a high prevalence of unintended pregnancy among young women who are unmarried which is associated with psychological distress in the form of anxiety and depression. It has also been associated with feelings of stigma and discrimination. This study also revealed that a majority of the pregnant young women disrupt their education as they are either expelled from school or drop out. A disrupted education can jeopardize the future of these young women and have negative consequences on the society. It also pointed out that adequate support especially from their baby's father can reduce the negative psychosocial effects of pregnancy in these women.

The government and communities should therefore intensify efforts to prevent unintended pregnancy among young unmarried women through a general, comprehensive sexuality and family life education and provision of social amenities. Contraceptive services should be made accessible to young women who are sexually active. Adequate and multidisciplinary supervision and support should be given to young women who get pregnant and choose to keep their pregnancy, during the entire course of the

pregnancy/childbirth and as they rear their children. The male partners must be encouraged and empowered by the government and society to take responsibility when pregnancy occurs.

Conflict of Interest

The authors declare that they have no conflict of interest.

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