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RESEARCH ARTICLE

STUDY OF MEDICAL MONITORING OF ADOLESCENT PREGNANCY IN FIVE HEALTH AREAS IN MALI

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Abstract

Introduction : Antenatal care is the service provided to pregnantwomen to ensure the best health conditions for women and the fetusduringpregnancy. An adolescent is one whosechronologicalageisbetween 10 and 19 years, and herpregnancyisconsideredworldwide as a high-riskpregnancy, as follow-up isless good in thisage group. Consequently, the reduction of complications requires a tripleapproach: medical, psychological and social. The main objective of ourstudywas to determine the practice of medicalfollow-up of teenagepregnancy in Mali in 2023.

Methodology : Thiswas a quantitative, cross-sectional, participatorystudyamong adolescent girls, conductedbetween March and April 2023 in five health areas of Mali. All data collected in the fieldwere sent daily to the KoboCollectaccount and extracted in Excel format. Analyses werecarried out on socio-demographic variables and the practice of medical monitoring of adolescent pregnancy.

Results : Duringoursurvey, 92 girls hadexperiencedpregnancy out of a total of 621, i.e. 14.81% of cases. The 15-17 age group was the mostrepresented, accounting for 61.7% of cases.The rate of use of prenatal consultation services was 74%. In ourseries, 12 girls (13% of cases) had abortions, 42% of whomreportedvoluntarytermination of pregnancy, and only 33% hadreceived post-abortion care.

Conclusion : Our work shows that the experience of pregnancywas a reality for teenage girls, and the majorityusedprenatal consultation services. It wouldbenecessary to considercomprehensivesexeducation for this group with specificneeds.

Introduction:-

Prenatal care is the service provided to pregnantwomen to ensure the best health conditions for women and fetusesduringpregnancy. To be effective, antenatal care (ANC) must beginearly in pregnancy. The World Health

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Organization (WHO) recommends four antenatalvisits, the first of whichshouldtake place before the thirdmonth of pregnancy**[1].**Prenatalcheck-ups are one of the most important ways of reducingmaternal and neonatalmortality. Theycan help prevent a number of complications duringpregnancy and childbirth. Non-monitoring of pregnancycanbe a risk factor for these complications **[2].**According to WHO, everyyear more thanhalf a million women die from causes related to pregnancy or childbirth**[3].**In 2012, itwasestimated that nearly 16 million girls aged 15 to 19 and 2 million girls under 15 gave birth[**4 and 5].**An adolescent is one whosechronologicalageisbetween 10 and 19, and pregnancy in thisage group isconsidered to be high-riskworldwide, as follow-up isless good **[6 et 7].** As aresult, complications canonlybereducedthrough a three-prongedapproachinvolvingmedical, psychological and social care **[5 and 6].**In Mali, the maternalmortality rate wasestimatedataround 325 per 100,000 live births, and the effective prenatal consultation coverage rate was 40.11% **[5].**In the presentwork, the authorshadstudied the medicalfollow-up of adolescent pregnancy in five health areas distributed in five health districts in Mali in 2023.The main objective of ourstudywas to determine the practice of medicalfollow-up of teenagepregnancy.

Methodology:-

This was a quantitative, cross-sectionalstudyconducted in a participatorymanneramong adolescent girls between March and April 2023. The surveywascarried out in five health areas in Mali, three in rural areas and two in urban areas in the regions of Sikasso, Koulikoro, Ségou, Kayes and Bamako. The surveywasconductedamong. Unmarried adolescent girls aged 15 to 19 wereincluded. The sample size wascalculated by zone on the basis of the size of the population targeted by the survey, considering the proportion of the phenomenonstudiedat 50% and the 95% confidence interval. The samplingprocedurewasprobabilistic and mixed (stratifiedrandom, cluster random, simple random). Samplesweredrawnrandomly with probabilityproportional to population size, using the systematicrandommethod and a samplingstep.A structured questionnaire wasdrawn up and administered in face-to-face interviews. Data werecollected and entered on tablets/smartphones using the KoboCollect application. All data collected in the fieldwas sent daily to the KoboCollectaccount and extracted in Excel format to check data quality as itwascollected.Prior to data collection, a pre-test of the questionnaire wascarried out in a health area outside the surveyed health zones, in order to assessitsclarity and comprehensibility, and to rectifyit if necessary.Data analysis wascarried out using Excel and SPSS 22 software. The variables studiedwere socio-demographic data and the practice of medical monitoring of adolescent pregnancy. The statisticalsignificancelevelwas set at 5%.Free and informed consent to participatewassoughtfrom all targetsat the start of the survey, and all individualswereinformed of their right to refuse to participate or to withdrawatanytime.For minors, verbal informed consent wasalsorequestedfrom parents or guardians.

Results:-

In the course of oursurvey, 621 young adolescent girls weretargeted. Werecordeda participation rate of 14.81%, or 92 girls.Inourseries, 61.7% of patientswereagedbetween 15 and 17, 38.3% wereaged 18 and over, and the 2nd cycle was the mostrepresentededucationallevel with 43% of cases (Table I). Amongouryoung adolescents, 83.8% of cases hadacquiredpregnancyaccidentally and 8.1% hadrefused to answer**(Figure 1).**

ANC wasperformedin 73.91% of cases duringpregnancy, and 26.09% of adolescents refused to undergo ANC. Of the adolescents whorefused ANC, 36.6% saidtheydid not wanttheirfamily to know about theirpregnancy **(Table II).** The majority of adolescent girls in our case serieshadgivenbirth in an ANC center.

Table I:- Distribution of participants by level of education.

Level of education	Percentage	P value
1st cycle	16,12	0,304
2nd cycle	**43,93**	
Literate	1,30	
No education	10,88	
Koranic	8,77	
Secondary	16,08	
Higher	2,92	

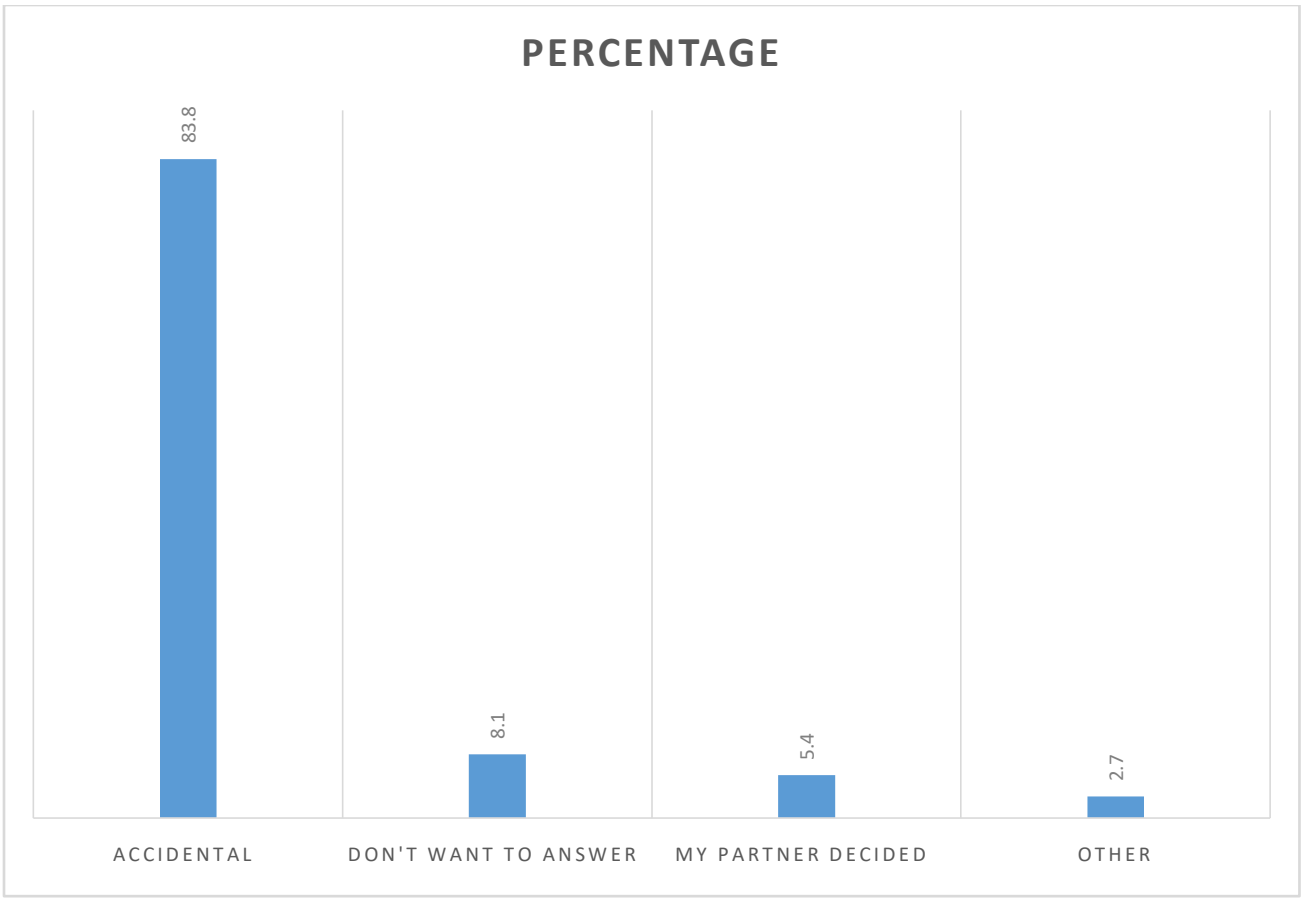

Figure 1:- Reasons for pregnancy.

Table II:- Distribution of participants according to reasons for not completing ANC (n=22).

Reasons for not performingANC(n=22)	**Percentage**
Didn'twantfamily to know	**36,6**
Didn't know to do it	20,8
Didn'twant to	12,5
Couldn'tmake the decisionalone	8,3
I didn't have the financialmeans to do it	17,3
My fiancé didn'twant to	4,5

Table III:- Distribution of participants by place of delivery.

Place of delivery (n=92)	**Percentage**
In a health center	73,74
Aborted	13,84
At home	7,61
Don'twant to answer	3,72
On the road	1,09
On the road	1,09

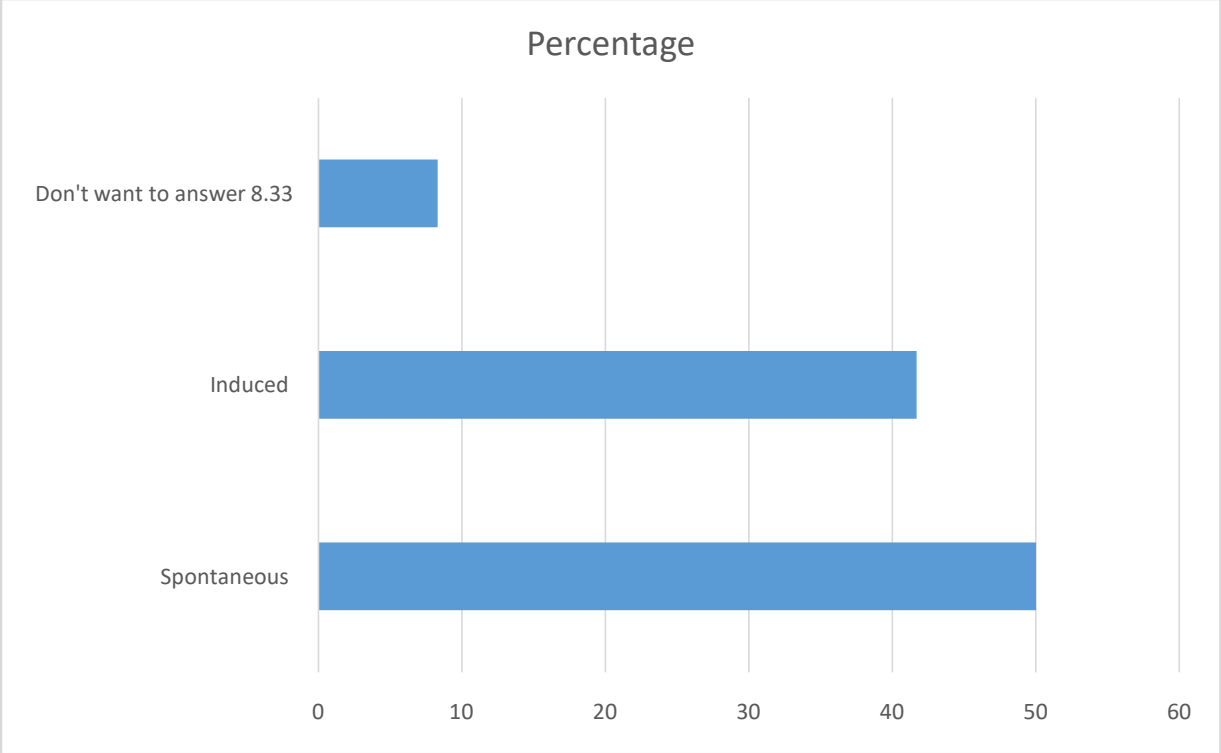

Figure 2:- Distribution of participants by type of abortion (n=12).

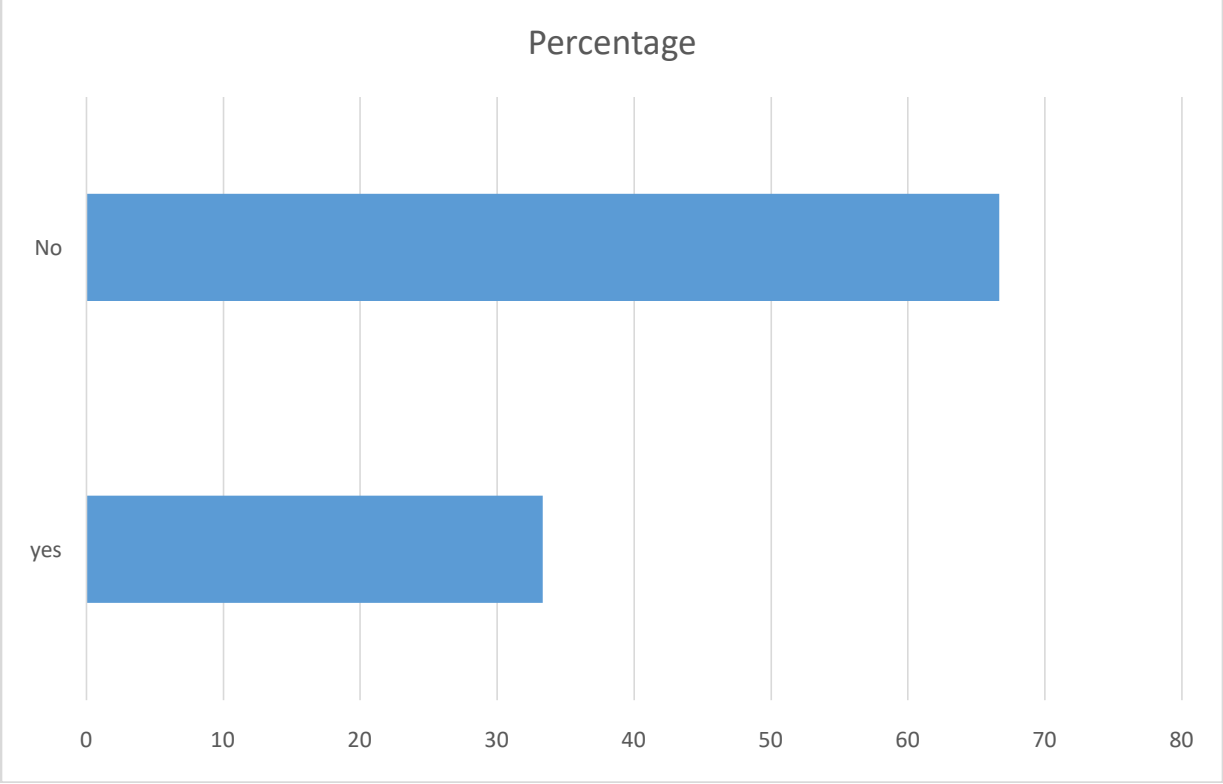

Figure 3:- Distribution of participants according to receipt of postabortion care (n=12).

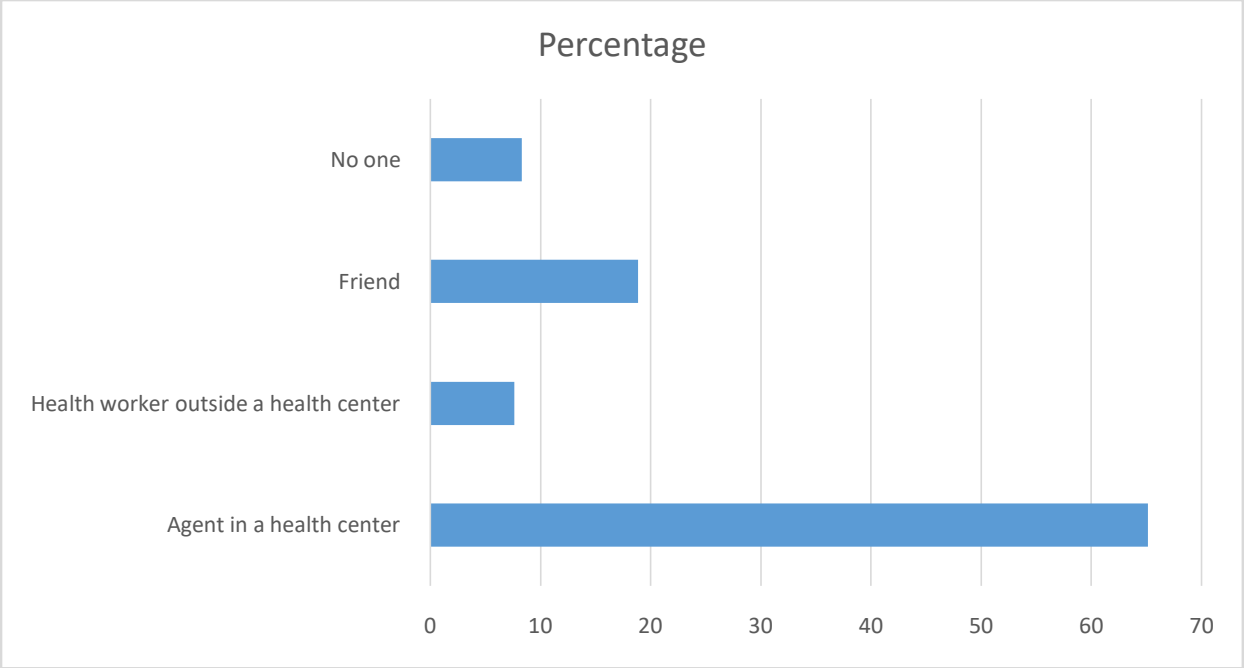

Figure 4:- Distribution of participants according to whoassistedpostabortion (n=12).

Discussion:-

Duringoursurvey, 92 girlshadexperiencedpregnancy, i.e. 14.81% of cases. This resultcouldbeexplained by the sensitivity of the subject, which made some adolescents reluctant to answer the various questions.

Socio-demographic characteristics of adolescent girls:

In ourstudy, 61.7% of adolescent girls were in the 15-17 age group, with a p.<0.001; 43.93% had a secondaryeducation and 10.88% had no education. Felix en Yaoundé and Oumara M in Niger in 2024 **[8 and 9]**found an averageage of 17.5% similar to that of oursurvey, but with 68.4% not in school, compared with 75% with secondaryeducation in Bamba DF and Déo-Gracias Vanessa DossiSekponin 2023 **[10 and 11**]. Theseresultscouldbeexplained by the reality of earlymarriage in ourenvironment and the persistence of certain negativeideas about girls' schooling.

ANC practice and childbirth:

The rate of use of prenatal consultation services was 74%, with higher proportions in urbanthan in rural health areas. However, thesedifferenceswere not statisticallysignificant (p.=0.634) whileOumara in Niger in 2024 **[9]**noted that pregnancywas not wellmonitoredin 71.6% of cases.The reasons given by adolescents whodid not use ANC services in oursurveywereessentially that theydid not wanttheirfamily or friends to know about theirpregnancyin 1/3 of cases, and 20% wereunaware of the need for prenatal consultation. Philibert L in 2023 in Haiti**[7]**found that the majority of factors remainbeyond the control of pregnant adolescents, and these dimensions originate in cultural and socio-economic injustices linked to the person's living environment and the healthcare system.Just over 70% of pregnant teenagers gave birth in a health center, and only 8% deliveredat home. This rate highlights the need to raiseawareness of the importance of skilledbirthattendance, and to develop a birth plan that takesintoaccount the challenges faced by teenage girls.For the 12 girls (13% of cases) whohad an abortion, 42% reported that itwas an electivetermination of pregnancy. Of these, only 33% hadreceived post-abortion care; 25% had been assisted by a health center agent and a familymember; in some cases, evenpartners (17% of cases) hadassisted the girls. Déo-Gracias Vanessa DossiSekponin 2023 **[11],**found that unmarried adolescents performed more unsafe abortions thanmarriedones.

Conclusion:-

Ourwork shows that the experience of pregnancywas a reality amongteenage girls, and the majorityusedprenatal consultation services. The main reasonwhytheybecamepregnantwas that most of themcontracted the pregnancyaccidentally, hence the need for comprehensivesexeducation for this group with itsspecificneeds.

Conflict of interest:
The authorsdeclare that they have no conflict of interest.

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