Factors that Influenced Increase in Teenage Pregnancy of Girls Aged between (10-19) years During the Covid-19 Pandemic: A Comparative Study of Kakamega and Bungoma Counties, Kenya

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ABSTRACT

The unprecedented circumstances occasioned by the Covid-19 pandemic meant that most teenagers across the learning continuum globally were out of school environment and thus subjecting the girls to teenage pregnancy risks. Adolescent's pregnancies in Kenya are on the increase and require mitigation from an empirically informed position especially during periods of pandemics such as the Covid-19 outbreak. The main objective of this study was to examine the factors that influenced increase in teenage pregnancy of girls aged between (10-19) years during the Covid-19 Pandemic in Kakamega and Bungoma Counties, Kenya. The study was guided by the Do-No-Harm approach, Bohle's vulnerability model and Hazard of the Place Model as the conceptual underpinning of the study. Cross-sectional survey research design was adopted for the study. The target population was 889,312 being derived from households with teenage girls aged between ten and nineteen years. Data was obtained through document analysis, questionnaires, key informant interview, and Focus Group Discussions (FGDs). The study used a sample size of 590 respondents drawn from the two Counties. The sampling strategy involve purposive, multi-stage and stratified sampling. The cross tabulation, frequencies and bar graphs were used together with Principal component analysis (PCA) summarize quantitative data while Verbatim quotations were used to present qualitative results The results showed that Covid-19 pandemic impacted negatively on teenage girls on the account of prevalence of indiscipline behavior (61.69%), being highly temperamental and rude (59.66)%, stress due to being out of school indefinitely (49.66%), loss of interest in academics and failure to attend online classes (38.47%) and increase in promiscuity tendencies and sexual liberalism (37.46)%. The Principle Component Analysis (PCA) revealed that seven variables for mitigating teenage pregnancies accounted for over 80% as viable mitigation strategies against teenage pregnancy. Whereas Covid-19 intensified teenage pregnancies, lack of provision for basic needs and limited exposure on sexuality matters among teenagers were identified as the major causal factors that were catalyzed by Covid-19 pandemic. The study recommends need for designing an intervention framework to mitigate teenage pregnancy in the study area, where emphasis should be directed on all those variables with a PCA loading weight of 5% and above and the underlying factors that simply accelerated during the pandemic.

Keywords: Bungoma, Covid-19 Pandemic, Counties, Kakamega, Teenage Pregnancies

I. INTRODUCTION

The novel Corona Virus Pandemic (COVID-19) which broke out in Wuhan, China towards the end of 2019 and first reported in Kenya in February 2020 disrupted the social and economic structures in different Countries, Kenya included as the infections spiked spontaneously (Ministry of Health [MOH], 2020; Aluga et.al., 2021). Both developed and developing nations faced multiple challenges due to the pandemic. However, in developing economies such as Kenya, the social impact manifested in different facets notably, the social wellbeing of the citizens in African countries, which deteriorated significantly (Chaput et al., 2020). The restrictions imposed by various Governments such as lockdowns, cessation of movements, and closure of schools led to the emergence of other unprecedented problems. One such critical issue that emerged was the threat on the wellbeing of teenage girls in society (Chaput et al., 2020).

The media outlets in many countries reported high cases of teenage pregnancies during the COVID-19 period. Organizations and different stakeholders in society opined the fact that teenagers were idling at home and the presence of sexually active individuals among this population segment precipitated the surge in teenage pregnancies. Moreover, the problem continued to impede sustainability within society because majority of the victims were people who live below the poverty line (Murewanhema et al., 2023). Due to the spontaneous nature in increase of teenage pregnancies, there was urgent need to undertake an empirical investigation with a view to unravel informed and justifiable basis of the surge in pregnancies among teenage girls. This threatened a whole generation of girls in terms of denied or terminated prospects of continued education and limited options to livelihoods occasioned by early motherhood (International

Planned Parenthood Federation [IPPF], 2015; Ning et al., 2022). In view of the foregoing, this study sought to examine the factors responsible for teenage pregnancies during the COVID-19 Pandemic in Kakamega and Bungoma Counties. This was necessary in order to formulate effective mitigation measures against this challenge as a partial remedy to cushion the girl-child in line with the Sustainable Development Goals (SDGs) Number 4 and 5 (United Nations [UN], 2020).

1.1 Statement of the Problem

The prevalence rates of teenage pregnancy worldwide have been alarmingly high in spite of the multi-agency approach to mitigate it (World Health Organization [WHO], 2014). Whereas several factors are linked to the causes to this tragedy, the ultimate impact of this on the girl child in the developing economies has been loss of opportunities to access competitive livelihood options due to dropping out of school to take up early motherhood roles. In Kenya, the storyline of teenage pregnancy trajectory remains the same as projected globally with Counties like Nairobi, Bungoma, Kakamega, Homa Bay, Kwale and Kajiado featuring prominently (Ministry of Health [MOH] 2015; Ikamari et al. , 2013). The upsurge in Covid-19 pandemic caused the Government of Kenya to take stern preventive actions, among them, closure of all learning institutions from nursery to university, lockdowns, and secessions of some parts of the country. These unprecedented circumstances occasioned by the Covid-19 therefore meant that all teenagers across the learning continuum remained out of school environment and that girls in this segment were at risky due to being susceptible and vulnerable to teenage pregnancies. Reports of young girls being sexually abused are common (United Nations Childrens' Fund [UNICEF], 2020). However, the perpetrators of these heinous crimes are people they live with in the same household or in the neighbourhoods consequently, adolescence pregnancies in Kenya are increasing at alarming rates that require mitigation from an empirically informed position to enable meaningful planning based on verifiable data especially during this period of youth confinement due to Covid-19 restrictions.

1.2 Research Objectives

The specific objectives were to

i. To establish socio-demographic characteristics of the household heads in Kakamega and Bungoma Counties, Kenya
ii. To determine the effect of Covid-19 on teenage daughters aged 10-19 years in Kakamega and Bungoma Counties, Kenya.

II. LITERATURE REVIEW

2.1 Theoretical Framework

The study utilized a theoretical framework borne out of a combination of the Do-No-Harm approach which emphasizes, the importance of avoiding causing harm, and prioritizing the wellbeing of individuals and communities (International Federation of Red Cross and Red Crescent Societies, [IFRC], 2014). Bohle's vulnerability model (Bohle, 2001) and Hazard of the Place Model (Cutter et al., 2003). The three models blended well and studies have shown their utilization effectively in: minimizing the vulnerability of the population in disaster prone areas, preventing threats resulting from secondary disasters (human-induced and natural) other than the on-going disasters, and limiting the scope of the negative impacts of humanitarian action.

2.2 Empirical Review

Previous studies (Panday et al., 2009; Sabatiuk & Flores, 2009), revealed that low economic status that exacerbate the level of poverty expose teenagers to greater risk for early sexual debut and coercive sexual relationships and teenage pregnancy. Other compounding factors causing early pregnancies affecting adolescent girls in Kenya include community norms on gender roles, violence, and the value of girls; barriers to formal education; lack of economic independence; experience of violence; and social isolation (WHO, 2008). Since the emergence of Covid-19 in Kenya, cases of domestic violence have been on the rise. Reports of young girls being sexually abused are becoming common (UNICEF, 2020). However, the perpetrators of these heinous crimes are people they live with either in the same household or in the neighbourhoods consequently, adolescence pregnancies in Kenya are increasing at alarming rates that require mitigation from an empirically informed position to enable meaningful planning based on verifiable data especially during this period of youth confinement due to covid-19 restrictions.

In many developing countries, society's girls undergo pressure to marry and bear children early at a tender age. Sub-Saharan Africa has the highest percentage of child marriage globally, with approximately 35% of young women married before 18, followed by 30% in South Asia and 24% in Latin America and the Caribbean (UNICEF, 2020). According to United Nations Population Fund [UNFPA-UNICEF], 2017), the Sub-Saharan African region led in the prevalence of adolescent pregnancies globally with an approximation of 101 births per 1000 women aged 15 to 19. Previous studies have shown that teenagers in Sub –Sahara still have the highest birth rates compared to other teenagers

in other regions. Most countries with teenage pregnancy levels above 30% occur in sub-Saharan Africa (Loaiza, 2013). According to the World Health Organization (2020) the restrictions and stringent measures that were imposed to curb the swift spread of COVID-19 by several governments led to the emergence of critical issues such as a threat to the well-being of teenage girls in societies (WHO 2020). he study carried out in Sierra Leone and Liberia on learning among girls and boys during the Ebola outbreak when schools were closed indicated that due to greater caring and domestic responsibilities, a more significant percentage of girls as compared to boys were highly disadvantaged as far as home learning is concerned (Jones et al., 2021). Adolescent pregnancy and motherhood in contemporary society are not always seen positively in many societies (Jones et al., 2021) and that the continual negative portrayal of parenting in adolescence prompts adolescent women to self-portray morality, maturity, and responsibility while contrasting themselves with their contemporaries' claimed irresponsible, immoral behavior.

Teenage pregnancy and motherhood impede academic progress, leading to early dropout, and limiting prospects for educational and economic success (Shamirah, 2022). Teenage parenthood has long-term effects on young mothers' job growth, and so it results in poverty being passed down from generation to generation (Kumar & Huang, 2021). As a result, it appears that programs aimed at reducing the long-term repercussions of young parenthood should focus on assisting teenage mothers in completing their secondary school education. Since there likelihoods of having similar or even severe pandemics like Covid-19, authors opine that teen mothers from the covid-19 pandemic need to have their story told as a way of reducing stigma and justifying unique interventions to cushion their teenage motherhood. This study findings is a partial contribution to lacuna.

III. METHODOLOGY

3.1 Study Area

This study was conducted in two counties of Kakamega and Bungoma, which are in the western region of Kenya (Figure 1).

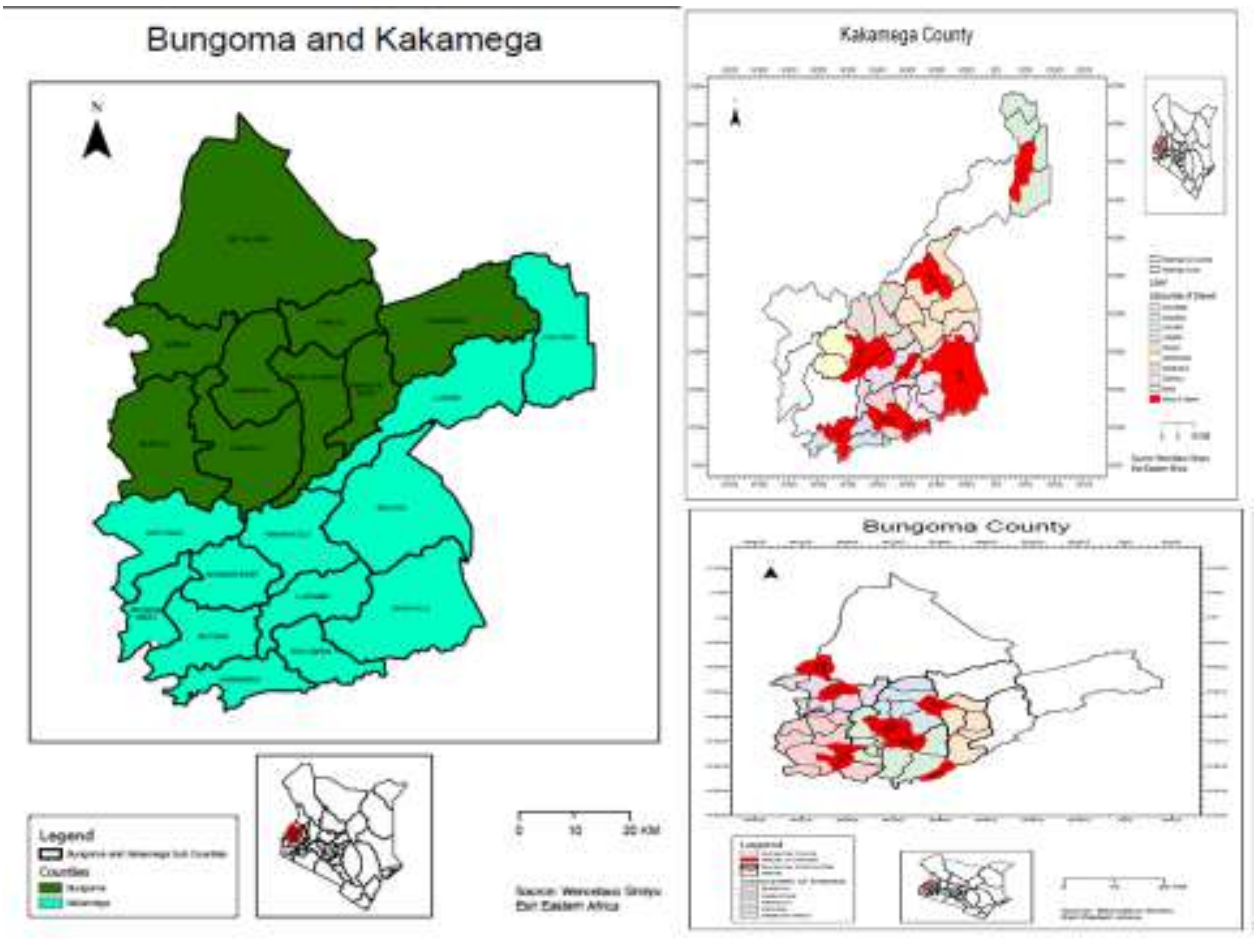

Figure 1
Map of the Study Area
Source: Author (2025)

The region as shown in Figure 1 was purposively chosen since these two counties have common characteristics in terms of socio-economic and cultural activities, community characteristics and even natural calamities. In addition, during the past years the selected study area recorded high numbers of teenage pregnancies in Kenya (WHO, 2020). In order to capture the spatial distribution and the vulnerabilities in the two counties, seven (7) Sub-Counties in Kakamega and five (5) Sub-Counties in Bungoma were sampled. Further sampling was done in each of the sub counties to identify the vulnerable wards and finally nine (9) wards were identified in Kakamega County while six (6) wards were sampled for Bungoma County.

3.2 Research Design

Cross-sectional survey research design was adopted for the study. Cross-sectional design is the most relevant design when assessing the prevalence of disease, attitudes and knowledge among patients and health personnel, in validation studies comparing, for example, different measurement instruments, and in reliability studies (Cohen, 2005).

3.3 Study Population

The target population comprised households with teenage girls aged between ten and nineteen years. The study focused on teenage girls aged between ten and nineteen years and necessary consent where applicable was sought especially for girls below age of eighteen years. Other major stakeholders including teachers, parents, the local leadership and community-based groups, youth groups, civil society groups, human rights groups and NGOs handling youth affairs for purposes of triangulating their views on data gathered from the teenage girls in the study.

3.4 Sample Size

The study used a sample size of 590 respondents drawn from the two Counties. The sample used in this study was informed by inference to sample determination table used in social sciences (Saunders, et al., 2007; Cohen, 2005). It was deemed large enough to yield adequate statistical power in addition to avoiding the crisis of representation. Further, based on researchers' judgement and expert surmise of other senior researchers, the sample was seen to be fair to minimize on sampling error.

Table 1

Unit of Analysis and Sampling Methods the Study

Study Unit of Analysis	Sampling Method	Sample Size
County	Purposive	2
Sub County	Purposive	14
Wards	Purposive	16
Households with Teenage Girls (10-19yrs)	Multi-phase/Random sampling	590

Table 2

Target Population of the Study

County	Age cohort	Teenage girls population (KNBS, 2009 census)	Teenage girls population (CIDP 2020 Projections)
Kakamega	10-14	112,046	147, 512
	15-19	92,096	121,247
Bungoma	10-14	95,030	132,956
	15-19	78,540	109,885
Sub-Total of Teenage girls' population (Kakamega & Bungoma)	**10-19**	**377,712**	**511,600**
Overall Population	Kakamega	1,660,651	2,186,299
	Bungoma	1,374,627	1,919,490
Sub-Total		**3,035,278**	**4,105,789**

Source: CIDP-K&B (2018)

3.5 Data Collection and Analysis

Various approaches were utilized to achieve the set objectives; they included desktop reviews that covered historical and current data on teenage pregnancies and behaviors. Secondary data involved extensive literature review to establish causes of teenage pregnancies. The major sources of information were from relevant national and county government authorities, county development plans, Kenya National Bureau of Statistics, Non-Governmental Organizations, County Ministries of Education and Health, children welfare groups among others. Questionnaire interviews were administered to household heads with teenagers; Key Informant Interviews (KIIs) were administered among officers of relevant county disaster departments, teachers, NGOs and Focus Group Discussions (FGDs) in various

communities. Snow balling was used to identify teenage girls who were pregnancy victims for in-depth interview. In collecting the data this study, authors considered all ethical implications which included factors such as informed consent (involved seeking permission from parents or teachers before engaging minors), withdrawal from participation, deception, debriefing and protection of respondents from physical and psychological harm. Ethics approval was obtained from both Masinde Muliro University of Science and Technology (MMUST) and Western Region County offices in charge of welfare. Descriptive statistics, mainly the cross tabulation, frequencies and bar graphs were used together with Principal component analysis (PCA) summarize quantitative data. Verbatim quotations were used to present qualitative results by giving the voices of key informants, FGDs discussants and teenage pregnancy victims who responded to in-depth interviews.

IV. FINDINGS & DISCUSSION

4.1 Household Socio-Demographic Characteristics and Covid-19 Pandemic

The household questionnaires were administered to 590 respondents in (12 sub counties and 15 wards) of Kakamega and Bungoma counties respectively. The study sought to establish the background information of the age of respondents, marital status, number of children and the number of teenage girls, education level and monthly income of household heads among other factors. These factors play a big role in determining the behavior of teenage girls within households.

4.1.1 Gender and Teenage Pregnancy

The gender distribution among the respondents was established as male 136 (35.7%) and female 245 (64.3%) for Kakamega County while for Bungoma County it was 29 (14.9%) and 180 (86.1%) for male and female respectively (Table 3).

Table 3

Household Socio-Demographic Characteristics for Kakamega and Bungoma Counties

Characteristics	Categories	Kakamega County		Bungoma County	
		Frequency (N=381)	Percent	Frequency (N= 209)	Percent
Gender	Male	136	35.7%	29	13.88%
	Female	245	64.3%	180	86.12%
Marital status	Married	275	72.18%	144	68.9%
	Single parent	17	4.46%	28	13.4%
	Widowed	46	12.07%	14	6.7%
	Separated	4	1.05%	13	6.22%
	Not married	39	10.24%	10	4.78%
Education level	Primary	122	32.02%	77	36.84%
	Secondary	141	37.01%	93	44.5%
	Certificate	35	9.19%	12	5.74%
	Diploma	38	9.97%	9	4.31%
	Degree & above	20	5.25%	9	4.31%
	No. formal education	25	6.56%	9	4.31%
Average monthly income	Less than 10,000	260	68.24%	169	80.86%
	10,000-25,000	93	24.41%	26	12.44%
	25,000-50,000	25	6.56%	12	5.74%
	50,000-100,000	2	0.52%	2	0.96%
	Over 100,000	1	0.26%	0	0%

The existence of gender inequities (as presented in Table 3) within communities create men's dominance in making family decisions hence impacting on sex and reproductive health for teenagers (United Nations - AIDS, 2009; Gilbert & Walker, 2002). According to Holt et al., 2012, the culture of submission to male partners often results to unprotected sex resulting to STIs, HIV and unintended teenage pregnancy. However, a study by Kiragu and Laurie (1995) revealed that mothers were more open in providing young people with sex information as opposed to fathers. The study further established that, sex education both in schools and in the home is very inadequate in Kenya. Gender inequality coupled with poverty and humanitarian crises among teenagers leads to preference for boys over girls for schooling and thus exacerbating adolescent pregnancy (Juma et al., 2014; Loaiza, 2013; Were, 2007).

4.1.2 Household Marital Status

When asked about the marital status in Kakamega County, it was revealed that 275 (72.18%) were married while 106 (27.82%) comprised single parents, widowed, separated or not married. However for Bungoma County, 144 (68.9%) were married while the remaining 65 (31.1%) constituted the other categories. Family ties are important in nurturing juveniles, Jones et al. (2021) has shown that teenagers living with single parent (father) or mutual parents are more vulnerable to unplanned pregnancy compared to those who live with either parents. It is therefore inferred that single mother households are likely to raise more disciplined teenagers who may be at lower risks of getting teenage pregnancy (Kiragu & Laurie, 1995). However, it has been shown that, commitment of both parents and level of control from parental or guardian care could be a deterrent measure to teenage pregnancy (Katayamoyo, 2010).

4.1.3 Average Monthly Income of Household Heads

The results showed that a majority of household heads 260 (68.24%) in Kakamega County had a monthly income of less than Kshs.10,000 (100 Dollars) per month while for Bungoma County 169 (80.9%) household heads had a monthly income of less than 100 Dollars per month respectively, which is an indicator of the high poverty levels in the two counties. Sabatiuk and Flores (2009) assert that low economic status of parents' subject teens to early engagement in intimate relationships with older partners for financial benefits thus exposing them to teenage pregnancy, HIV and other sexually transmitted diseases. According to Finer and Henshaw (2006), poverty influences higher rates of teen pregnancy in the United States, with poor women becoming vulnerable to unintended pregnancy.

4.1.4 Level of Education

Household heads in Kakamega County were asked to state their level of education, majority 263 (69.03%) had secondary 141 (37.01%) and primary level 122 (32.02%) respectively while for Bungoma County majority 170 (81.34%) had secondary 93 (44.5%) and 77 (36.84%) respectively. The results portrayed a population with low-level education lacking skills and professional training. It was also evident from the results that there was a proportion of those without any formal education 25 (6.56%) and 9 (4.31%) for Kakamega and Bungoma respectively. Studies have shown that there exists a significant association between fathers or guardians occupation, level of education and teenage pregnancy (Vikat et al., 2002). Children from families whose parents have low education and rely on manual labour are more likely to become teenage mothers than girls from professional backgrounds. According to Hoffman and Saul (2006) the high rates of poverty and lower educational levels in rural communities in the U.S are the main factors causing high rates of teenage pregnancy. Well-paying jobs require at least secondary level education (Moore et al., 2002) and therefore teenagers with lower level education are less likely to get employed which explains the lower socio-economic status they face.

4.2 Effect of Covid-19 on Teenage Daughters Aged 10-19 Years in Kakamega and Bungoma Counties

4.2.1 Teenage Girls

The study sought to determine the effect of Covid-19 on teenage daughters aged 10-19 years in Kakamega and Bungoma Counties (Table 4). This was done on a 4-point likert scale where: SA=Strongly Agree, A=Agree; D=Disagree and SD=Strongly Disagree.

Table 4

Effect of Covid-19 on Teenage Daughters Aged 10-19 years in Kakamega and Bungoma Counties

Effect of Covid-19 on teenage daughters		Kakamega County				Bungoma County			
		SA	A	D	SD	SA	A	D	SD
Prevalence of indiscipline behaviour	Freq.(N)	88	132	72	7	140	48	19	2
	Percent (%)	23.1%	34.65%	18.9%	1.84%	66.99	22.97	9.09	0.96
Triggered teenage emotions like being temperamental and rude	Freq.(N)	79	128	81	6	131	61	15	2
	Percent (%)	20.73%	33.6%	21.26%	1.57%	62.68	29.19	7.18	0.96
Stressed due to being out of school indefinitely	Freq.(N)	54	115	108	18	145	40	18	6
	Percent (%)	14.17%	30.18%	28.35%	4.72%	69.38	19.14	8.61	2.87
Lost interest in academics and couldn't attend online classes	Freq.(N)	43	92	141	21	131	33	40	4
	Percent (%)	11.29%	24.15%	37.01%	5.51%	62.68	15.79	19.14	1.91
	Percent (%)	4.46%	5.57%	56.17%	12.07%	55.5	4.78	27.75	11.48
Got hooked on social media	Freq.(N)	41	54	155	48	135	22	43	9
	Percent (%)	10.76%	14.17%	40.68%	12.6%	64.59	10.53	20.57	4.31
Became pregnant	Freq.(N)	16	10	228	45	110	16	61	21
	Percent (%)	4.2%	2.62%	59.84%	11.81%	52.63	7.66	29.19	10.05

Considering the two counties (Kakamega and Bungoma) as a unit of analysis with (N=590) to rank the top five variables, the results indicated that; prevalence of indiscipline behavior at 408 (69.15%), teenage emotions like being temperamental and rude at 399 (67.67%), stress due to being out of school indefinitely at 354 (60%), lost interest in academics and couldn't attend online classes at 299 (50.68%), got hooked on social media at 252 (42.17%), and became pregnant at 243 (41.19%) were ranked highest respectively. On the option, it caused the teenage girls to become pregnant, 26% agreed, 52% disagreed while 22% did not see it as applicable in their case in Kakamega County. In Bungoma County, 69% agreed while 31% disagreed.

4.2.2 Summary of Effect of Covid-19 on Teenage Girls in Kakamega and Bungoma Counties, Kenya

The high rating of Bungoma County could be attributed to perception based on their equally high rating of increased family problems during covid-19 as a top driving force for teenage engagement in sexual activities. The study revealed that since there were other specific factors that were cited even in the previous years before covid-19 pandemic in which Bungoma County had reported high teenage pregnancies (Njoka, 2016), covid-19 was interpreted as a catalyst to an ongoing vice. The results are further summarizes in Figure 2.

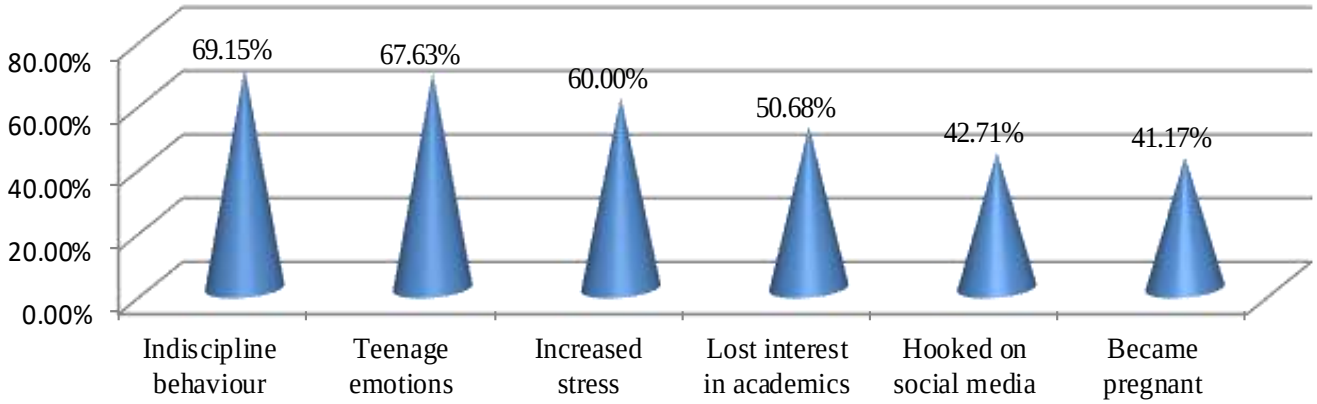

Figure 2

Summary of Effect of Covid-19 on Teenage Girls in Kakamega and Bungoma Counties, Kenya

4.3 Principal Component Analysis (PCA) of Various Teenage Pregnancy Variables

The Principal component analysis (PCA) of various variables perceived to influence teenage pregnancy during Covid-19 pandemic in Kakamega and Bungoma Counties was done. According to Abdi and Lynne (2010), Principal component analysis **(**PCA) allows researchers to summarize and to visualize the information in a data set containing observations described by multiple inter-correlated quantitative variables. Using R analysis, PCA was used to extract the important information from a multivariate data table containing coded coping mechanisms and strategies to mitigate teenage pregnancies in the study area of Kakamega and Bungoma Counties. The obtained information was then, used to express which of the variables singularly or in combination with others accounted for variability based on loading weights.

In this study, we used 80% as a threshold for the number of variables to be picked as principal components (PA) which is acceptable as most studies use 70% as being large enough (Husson & Jerome, 2017; Jollife, 2002). From the PCA analysis done, seven (awareness, sexual education through community health volunteers (CHV), sexual education by churches and schools, contraceptives, community, social protection and behavior change) out of the seventeen variables accounted for over 80% variability across the study area and were therefore, taken as influential principal components. However, in five wards, the first two (awareness, sexual education through community health volunteers CHV) variables could pass as the principal components that accounted for over 80% variability.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

The study revealed that the top five variables influencing teenage pregnancy in Kakamega and Bungoma Counties include; prevalence of indiscipline behavior, teenage emotions like being temperamental and rude, stress due to being out of school indefinitely, lost interest in academics and couldn't attend online classes, got hooked on social media, and became pregnant which, ranked highest respectively. Based on the results obtained from the PCA, it is concluded that when designing an intervention framework to mitigate teenage pregnancy in the study area, focus should be directed on all those variables with a loading weight of 5% and above.

5.2 Recommendations

The study recommended need for designing an intervention framework to mitigate teenage pregnancy in the study area, where emphasis should be directed on all those variables with a PCA loading weight of 5% and above and the underlying factors that simply accelerated during the pandemic.

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