

# Effects of Girls' Menstruation Cycles on Sustainable School Attendance, A Study of Mvomero District

## ABSTRACT

Poor menstrual hygiene has been associated with serious ill-health, including reproductive tract and urinary tract infections. Inadequate water and sanitation facilities are a major impediment to school attendance for girls during menstruation. The objective of the study was to find out the effects of girls' menstruation cycles on sustainable school attendance in Mvomero district. The purposive sampling and simple random sampling methods were used in the determining the sample size of the study. A total of 116 respondents were involved in the study, i.e. Five heads of schools, five class teachers, six matrons and one hundred teenage girls aged 13-15 years from eighteen public secondary schools within Mvomero district. The data were collected through questionnaires and documentary reviews to determine the current situation on teenage girls' awareness of menstruation as a normal biological function, impacts of menstrual cycles on school attendance and the provision of sanitary towels amongst school girls and their influence on sustained school attendance. Validity of data was tested using the pilot study. Cronbach Coefficient Alpha was used to test the reliability where the coefficient of 0.86 was released and it was considered reliable. The quantitative data were analyzed and presented in the APA tables for discussion whereas the qualitative data were analyzed thematically. The study result revealed that most teenage girls have knowledge on menstruation as a normal biological function that occurs periodically. It was concluded that most teenage girls have knowledge on menstruation as normal biological function. The study further observed that most teenage girls had health challenges during their menstruation which negatively affected their sustainable school attendance.

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Keywords: Menstruation, menstrual cycles, teenage girls, school attendance, sanitary 23 towels. 24

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1. INTRODUCTION 27

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Menstruation is a cyclic bleeding 29 occurring in all women under reproductive 30 age. It is characterized by blood flow 31 through female genital organs; normally 32 starts at puberty and stops at menopause 33 [1]. The menstrual hygiene management 34 is crucial for both physical and mental 35 health, education, and dignity of 36 adolescent school girls [2]. When good 37 menstrual hygiene practices are observed 38 they results into good menstrual health. 39 On the other hand, when menstrual 40 management practices are not well 41 controlled the ill effects are likely to be 42 encountered by females. Poor menstrual 43 hygiene has been associated with serious 44 ill-health, including reproductive tract and 45 urinary tract infections [3]. Inadequate 46 water and sanitation

facilities are a major 47 impediment to school attendance for girls 48 during menstruation, compromising their 49 ability to maintain proper hygiene and 50 privacy [4]. More than half of schools in 51 low-income countries either have 52 insufficient toilets for girls or are 53 frequently not very clean. Inadequate 54 knowledge on menstruation and poor 55 sanitation at schools greatly affects girls, 56 especially menstruating girls, and further 57 creates unfriendly school environment for 58 them [5]. The challenges caused by poor 59 hygiene management will continue to 60 jeopardize the potentials of girls if they 61 are not properly addressed. 62

In many parts of the world, menstruation 63 was considered a secrecy issue which is 64 associated with taboo, and only women 65 could discuss it with their matured girls. 66 This led menstruation to be associated 67 with taboos. Literature review has 68 demonstrated the limits that menstruation 69 puts on school attendance and academic 70 attainment for girls [6]. Furthermore, 71 Mahon & Fernandes [2] concluded that 72 poor management of menstruation affects 73 many girls globally, and especially in Low- 74 and Middle-Income Countries. The 75 absenteeism seriously impacted girls' 76 achievements at schools. In essence 77 menstrual cycles should be taken as a 78 normal biological function of any female 79 who is at the puberty to maturity age. 80

However poor menstrual hygiene 81 management caused by lack of enough 82 information on menstruation, privacy, 83 washing facilities, and sanitary facilities 84 has caused the girls to be truant. An 85 observation by Bobel & Winkler [7] in 86 Western Africa revealed that the concept 87 of menstruation is considered as the 88 female issue and that it is the 89 responsibility of the women to educate 90 girls about it. On the other hand, lack of 91 awareness on menstruation among 92 teenage girls and ineffective menstrual 93 hygiene management in schools are 94 serious issues that lead to school 95 absenteeism for most girls. Chandra-96 Mouli, et. al. [8] in Low and Middle Income 97 Countries observed that, many girls 98 across the world enter the adolescence 99 period with knowledge gaps on 100 menstruation thus being unprepared to 101 cope with it. 102

In Tanzania, menstruation is still a 103 debatable issue. Several Non-government 104 Organizations (NGOs) show their 105 concerns in raising the awareness on 106 menstruation, making various researches 107 on menstrual hygiene management, 108 advising the government on the 109 importance of policy formulation regarding 110 menstruation as well as supporting the 111 school girls through provision of sanitary 112 pads [9]. Furthermore, the Tanzanian 113 government has made several strategies 114 towards the MHM. In the year 2019, the 115 ministry of health agreed to incorporate 116 menstrual hygiene management as a 117 specific policy issue in the revised 118 National health policy which commits to 119 continue reform and resources towards 120 menstrual hygiene issues into the future 121 [10]. The measures help the marginalized 122 groups to have accessibility to sanitary 123 products thus influencing their sustainable 124 school attendance. Management of 125 menstruation is still a challenging issue 126 among secondary school girls in 127 Tanzania, and it involves psycho-social 128 and physical challenges. The findings by 129 Guya, et. al. [11] & Gabrielson [12] focused 130 on menstrual hygiene management 131

among secondary school girls in 132 Tanzania. This leaves the gaps on the 133 sustained school attendance by girls and 134 effects of truancy or irregular school 135 attendance. 136 The objectives of

the study was to 137 determine if teenage girls in Mvomero 138 District are aware of their menstruation 139 cycles as a normal biological function, to 140 find out if menstrual cycles have an 141 impact on girls' sustainable school 142 attendance and to determine if girls in 143 Mvomero District are provided with 144 sanitary towels during their menstruation 145 for sustainable school attendance. 146 Further, the study would highlight the 147 effects of menstrual cycles on girls 148 sustained school attendance as well as 149 making suggested remedial measures. 150

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## 1.1 Analytical and Theoretical 152 Framework 153

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The study was guided by the social 155 learning theory by Albert Bandura. The 156 theory explains the development of 157 behavioral pattern for humans. Bandura 158 considered stimuli as a source of 159 behavior; an individual is likely to develop 160 a pattern of behavior following the 161 external environment/ behavioral models. 162 According to this theory, behavior is 163 termed as a broad sense to include 164 motoric, cognitive and physiological sense 165 of response. It has been shown in a 166 series of studies that self-monitoring 167 reinforcement system can be readily 168 transmitted to children through exposure 169 of the self-reinforcement patterns 170 displayed by adults and peers [13]. The 171 theory assumes stimulus contiguity as a 172 necessary, but not a sufficient condition 173 for acquisition and performance of 174 modeled pattern of behavior. Inter-175 personal relationship factors are 176 necessary preconditions for identificatory 177 learning; that parents serve as a decisive 178 role models during early developmental 179 period. (Children adapt behavior exhibited 180 by parents but not vice versa). During the 181 later stages of development, people adopt 182 behavior from peers, media and 183 surrounding community. The theory 184 further explains that observational 185 learning involves two representational 186 systems- an imaginal and verbal one. 187

In this study the social learning theory is 188 relevant in determining the awareness of 189 adolescent girls in menstrual cycles and 190 its impacts on sustainable school 191 attendance. It implies that parents are 192 expected to be primary source of 193 information on menstrual cycles to their 194 children followed by peers, mass media 195 and school. According to this theory the 196 adolescent girls would learn about 197 menstruation through verbal explanation 198 and seeing their parents and community 199 at large considering menstruation as a 200 normal biological phenomenon and it 201 should not impede girls from attending to 202 school to acquire knowledge and attaining 203 their carriers. If the parents, peers and 204 the entire community have wrong 205 perception on menstruation as it is 206 secrecy and should be hidden, the 207 concept will be inherited to the coming 208 generations. The current study was set to 209 find out the effects of teenage girls' 210 menstrual cycles on their sustained 211 school attendance as described in the 212 developmental pattern of behavior in 213 social learning theory. 214

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## 1.2 Conceptual Framework 216

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In the conceptual framework, it is 218 hypothesized that; lack of awareness 219 on menstruation, unfavorable cultural 220 factors, teenage pregnancies, lack of 221 sanitary materials in schools, poor 222 school environment for girls, lack of 223 parental involvement and professional 224 counseling are independent variables 225 that negatively affect sustainable 226 school attendance for girls. However, 227 awareness creation towards 228 menstruation, provision of sanitary 229 materials and hygienic environment 230 for girls, parental involvement and 231 professional counseling would 232 enhance sustainability to school 233 attendance. 234

Biljon and Burger [14] in South Africa 235 observed that menstruation does 236 have the repercussions for girls aged 237 between 12-13 years' school 238 attendance. However, the study 239 observed that older girls do not have 240 a higher probability of being absent 241 during their menses. Thus, 242 encountering menstruation for the first 243 time presents challenges for girls in 244 relation to school attendance. It is 245 therefore imperative that effects of 246 girls' menstrual cycles be highlighted 247 and intervened on to avoid hindrance 248 to regular school attendance. 249

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Figure 1: Conceptual framework on Factors affecting sustainable school attendance 275 for teenage girls. 276

Source: Researcher's construct in this study, (2022). 277

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## 2. RESEARCH METHODS AND 279 METHODOLOGY 280

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The study adopted the descriptive 282 design based on the mixed 283 methods approaches. Both 284 quantitative and qualitative 285 research approaches were used. 286 This is due to its relativeness to 287 the study as the researcher 288 investigated the effects of girls' 289 menstrual cycles and its impacts 290 to the sustainable school 291 attendance. Thus, in employing 292 this design, the researcher went 293 to collect data in order to see the 294 picture of the situation as could 295 be. That is, to find out if the 296 menarche has any impact on the 297 sustained school attendance. The 298 respondents were to say what 299 happens and would not 300 manipulate or treat the data but 301 give it as the situation prevails. 302 The purposive sampling and 303

Independent variables

☒ Unfavorable Cultural factors

☒ Teenage pregnancies

☒ Peer pressure

☒ Media influence

☒ Lack of awareness on menstruation

Dependent variable

Sustainable school attendance

Intervening variables

☒ Awareness creation on menstrual cycles

☒ Provision of sanitary materials

☒ Conducive school environment for girls

☒ Parental involvement

☒ Professional counseling

simple random sampling methods 304 were used in the determining the 305 sample size of the study. A total 306 of 116 respondents were selected 307 i.e. five heads of schools, five 308 class teachers, six matrons and 309 one hundred teenage girls aged 310 13-15 years from eighteen public 311 secondary schools within 312 Mvomero district. The data were 313 collected through questionnaires 314 and documentary reviews to 315 determine the current situation on 316 teenage girls' awareness of 317 menstruation as a normal 318 biological function, impacts of 319 menstrual cycles on school 320 attendance and the provision of 321 sanitary towels amongst school 322 girls and their influence on 323 sustained school attendance. 324 Validity of data was tested using 325 the pilot study. Cronbach 326 Coefficient Alpha was used to test 327 the reliability where the coefficient 328 of 0.86 was released and it was 329 considered reliable. The 330 quantitative data were analyzed 331 using Statistical Packages for 332 Social Sciences (SPSS v.28) and 333 presented in the APA tables for 334 discussion whereas the 335 qualitative data were analyzed 336 and coded thematically for easier 337 interpretation. 338

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### 3. RESULTS AND DISCUSSION 341

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#### 3.1 Teenage Girls' 343 Awareness on their 344 Menstruation Cycles as a 345 Normal Biological Function 346

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The study was set to determining the girls' 348 awareness on their menstruation cycles 349 as a normal biological function. The 350 respondents were asked to indicate by 351 choosing the appropriate answer of the 352 level of their awareness on menstruation 353 by selecting the same on the alternatives 354 provided. Table 1 presents the summary 355 of the respondents' views on the 356 awareness of their menstruation as a 357 normal biological function. 358

Table 1 Teenage Girls' Awareness of Menstruation as a Normal Biological Function (n=100)

Item	Yes F (%)	No F (%)	Total F (%)
Menstruation is a normal biological function	89(89%)	11 (11%)	100 (100%)

Source: Field Study 2022

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Table 1 show that the girls who proved their knowledge on menstruation as a normal biological function that occurs monthly or periodically were 89(89%). While those who displayed ignorance that menstrual cycle is not a normal biological function were 11(11%). It seems that the majority of the teenage girls are aware of the meaning of the menstruation cycles though this knowledge might not be sufficient because the other 11(11%) indicated their lack of knowledge of the same. It is the role of all and sundry that, the school management and parents to ensure that the girls obtain the correct information about menstruation so that

they are prepared to handle the situation appropriately. Findings by Schmitt, et. al. [15] in USA show that majority of teenage girls across three cities in USA have some basic knowledge on menstruation, Bhattacharjee, et. al. [16] in West Bengal-India, found that only 23.4% (187 out of 798) knew about menstruation before menarche. Another study by Abreu-

Sánchez, et. al. [17] in Spain highlights the gaps in knowledge and/or self-evaluation among young people in relation to their menstrual normality or abnormality. Furthermore, Cheng, et. al. [18] in Taiwan observed that most women knew about menstruation cycle before their first period. However, the findings indicate that the girls and or women were not well-prepared to manage the emotions accompanied by it and accept menstruation cycle experiences. Thus, from the current study it is profound that, more efforts are required to make the teenage girls fully prepared to handle

menstruation and enhance their comfort ability while at schools.

For the few girls who were not aware of the menstruation as a normal biological function could have been blinded by the misconception towards menstruation in the society or being taken as

a taboo 410 associated with it. Many girls across the 411 world enter puberty with knowledge gaps 412 and misconceptions about menstruation, 413 therefore being unprepared to cope with it 414 and unsure of when and where to seek 415 help is a challenge to their attending to 416 school daily [8]. 417

It is observed that, much emphasis is 418 needed to help them be aware of the 419 menstruation as a normal biological 420 function and that it should not create any 421 hindrance in the attainment of their 422 educational goals. Jain, et. al. [19] in India 423 concluded that, a comprehensive 424 awareness program has to be started 425 among all levels of the society to remove 426 misconception and taboos related to 427 menstruation to make it pleasant. The 428 basic knowledge on menstruation for 429 teenage girls was necessary for the 430 current research study which was set to 431 determine the effects of menstrual cycles 432 on the sustainable school attendance. 433

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### 3.2 Teenage Girls' Training on 435 Menstruation as a Normal 436 Biological Function 437

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In the current research study, the 439 assessment on the training about teenage 440 girls' menstrual cycles was established. 441 The respondents, who comprised of 442 school head teachers, matrons and class 443 teachers, were asked to indicate if there 444 are any training that are conducted at 445 school to help the girls be aware of the 446 menstruation as a normal biological 447 function. Table 2 presents the summary of 448 the respondents' ideas on the training that 449 are given to teenage girls about menstrual 450 cycles. 451

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Table 2 Teenage Girls' Training on Menstruation at Schools (n=16) 453

Source: Field Study 2022 454

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Table 2 above shows that majority of the 456 respondents 13(81.25%) agreed that the 457 girls are trained about their menstrual 458 cycle in their schools while 3(18.75%) 459 disagreed to have such training in their 460 schools. Further; most respondents 461 12(75%) agreed to have efforts made by 462 the school to ensure that girls get 463 awareness towards their menstruation 464 cycles while 4(25%) respondents 465

Item

Yes F (%)

No F (%)

Total (%)

Menstrual cycles training for girls

13(81.25%)

3(18.75%)

16 (100%)

Menstrual cycles training efforts to girls

12(75%)

4(25%)

16 (100%)

Programs for education girls about menstruation

8(50%)

8(50%)

16 (100%)

disagreed on the presence of such efforts. 466 Lastly a half the number of respondents 467 8(50%) showed that there were programs 468 that educate girls about menstruation in 469 schools while the second half 8(50%) of 470 the respondents disagreed on the 471 presence such programs. 472

Educating girls about their menstrual 473 cycles in schools is very essential as it 474 prepares the girls to handle the situation 475 and can minimize the truancy rate in 476 schools. An observation by Alam, et. al. 477 [20] in Bangladesh showed that enabling 478 girls to manage menstruation at school by 479 providing knowledge and management 480 methods prior to menarche, privacy and a 481 positive social environment around 482 menstrual issues has the potential benefit 483 to students by reducing school 484 absenteeism. 485

Despite the claim of the 13(81.25%) 486 respondents that the menstrual education 487 is provided in schools it seems that this 488 education is inadequate or is not 489 continuous so that its impact is known to 490 others who disagreed. A report by 491 Tanzania Water and Sanitation Network 492 (TAWASANET) [21] on improvement of 493 menstrual hygiene management in 494 schools in Tanzania; revealed that 495 adolescent girls still need more 496 information on Menstrual Hygiene 497 Management (MHM) which should be 498 provided in schools. Knowing the status of 499 education concerning menstruation for 500 girls in schools is relevant to the current 501 research study which was set to 502 investigate the effects of girls' 503 menstruation cycles on sustainable 504 school attendance. In some schools there 505 are some efforts made to ensure that girls 506 get awareness on menstruation cycles. 507 This can be done during extra curriculum 508 activities like subject clubs, plays and 509 visiting trainers. Mkumbo [22] opined that 510 this is done following the existence of the 511 gap in the curriculum content concerning 512 the menstruation. 513

In the sub item on menstrual cycles 514 training efforts to girls 12(75%) the 515 respondents admitted that there are extra 516 efforts which are made within their 517 schools to train girls to the knowledge of 518 the menstruation. The efforts are very 519 useful to minimize the number of girls who 520 miss classes due to menstruation factors. 521 However, this should be done in all 522 schools to help teenage girls with the 523 similar challenge. The information on the 524 efforts done in schools to help girls about 525 menstruation is appropriate to the current 526 research study which was set to 527 investigate the effects of girls' menstrual 528 cycles on sustainable school attendance. 529

In the sub item of Programs for education 530 girls about menstruation 8(50%), it was 531 found that there are some NGOs that 532 offer support to school girls by providing 533 education and sanitary facilities. The 534 Netherlands development organization 535 (SNV) implements school girls' menstrual 536 hygiene management projects in eight 537 districts in Tanzania named; Chato, 538 Magu, Sengerema, Karatu, Babati, Siha, 539 Njombe and Mufindi [9]. A half of the 540 respondents 8(50%) admitted to have 541 such programs though they did not 542 specify the existing programs. Usually, 543 these programs are geared to help in 544 bridging the knowledge gaps that exists in 545 schools and support girls thereby 546 minimizing truancy rates in schools. 547

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### 3.3 Impacts of menstruation on 549 girls' sustainable school 550 attendance 551

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The study aimed at finding out if 553 menstrual cycles have any impact on 554 girls' sustainable school attendance in 555 Mvomero district. Respondents were 556 asked to express by choosing among the 557 given responses how they felt at the onset 558 of their first menstruation. It was assumed 559 during this study that the first onset of the 560 menstrual cycle would set the trend for 561 girls' behavior on whether to attend 562 school during the menarche or not. Table 563 3 presents the summary of respondents' 564 perception at the onset of their first 565 menstruation. 566

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Table 3 Respondent's Perception on the onset of First Menstruation (n=100) 568

Feelings

F (%)

Normal 12 (12%)

Scared 53 (53%)

Perceived to be Sick 35 (35%)

Total 100 (100%)

Source: Field Study 2022 569

Table 3 above shows that majority of 571 respondents 53(53%) were scared during 572 the onset of their first menstruation 573 followed by those who had sickness 574 thoughts 35(35%) while a handful of the 575 respondents 12(12%) felt normal. It is 576 evident that majority of teenage girls 577 53(53%) were scared during their first 578 menstruation because probably they were 579 not prepared to handle that situation in 580 which they found themselves. This implies 581 that most of teenage girls experience their 582 first menstrual periods with little or no 583 knowledge about the body change. Thus, 584 they don't know how to perceive or 585 behave during this vital change in their 586 teenage and or adolescence age. This 587 might have consequences on girls' 588 attendance to school as they may decide 589 to escape going to school due to fear of 590 unknown, shame and or the perception 591 that they are actually sick. Biljon and 592 Burger [14] observed that menstruation 593 does have the repercussions for girls 594 aged between 12-13 years. However, the 595 study observed that older girls do not 596 have a higher probability of being absent 597 during their menses. Basically, 598 menstruation should remain as a natural 599 phenomenon thus should not create any 600 disturbance towards the girls' activities 601 including normal school routine. 602

The study revealed that teenage girls who 603 had sickness thoughts 53(35%) held the 604 second position. The girls who thought 605 that they were sick could have decide to 606 stay at home and ultimately miss classes 607 during the menstruation days while others 608 could remain passively sitting in the back 609 row of their classes due to fear of leakage 610 and then being teased by boys at school. 611 Studies by Sommer, et. al. [23] in Kenya 612 and Adimna & Admna [24] in Nigeria 613 opined that lack of suitable changing 614 opportunities, ineffective sanitary 615 products, fear of leaking, shame and 616 stigma impedes girls' fullest participation 617 in their schooling. It is therefore 618 imperative that the government and 619 community members should break the 620 silence 621

towards menstruation as it is considered 622 to be one of the many causes of the 623 increased truancy for school's girls. This 624 forms the necessity of this study which 625 was set to determine if menstrual flows 626 have any impact on girls' sustainable 627 school attendance. 628

On the other hand, few respondents 629 12(12%) considered their first 630 menstruation with normal perception 631 might. It seems that the girls might have 632 obtained the menstrual information from 633 some reliable sources and thus prepared 634 them enough to manage menstruation. A 635 study by Bhattacharjee, et. al. [16] in West 636 Bengal found that only girls, who knew 637 about the menstruation before menarche, 638 would not be scared and or fail to perform 639 their daily activities including school 640 attendance. It is therefore recommended 641 that it is significant for the teenage girls to 642 have a prior knowledge on their 643 biochemical changes so that on the 644

menarche they don't get shocked at what 645 has befallen them, instead manage the 646 situation appropriately for their comfort 647 and progress. Furthermore, additional 648 interventions need to be employed to help 649 these teenage girls. Such help should 650 range from awareness creation, 651 menstrual facilities accessibility as well as 652 supportive infrastructure for menstruation 653 management at schools. 654

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### 3.4 Respondent's Sources of 657 Sanitary Materials in a Month 658

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In the current research study, the 660 respondent's source of sanitary material 661 in a month was established. The 662 respondents, who were composed of 663 school girls only, were asked to outline by 664 choosing among the given alternatives 665 the sources of their sanitary materials 666 monthly. Table 4 presents the distribution 667 summary of the respondent's source of 668 sanitary materials in a month.669

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Table 4 Respondent's Source of Sanitary Material in a Month (n=100) 671

Source

F (%)

Par Parents 85 (85%)

Friends 9 (9%)

School 2 (2%)

Pocket money 4 (4%)

Total 100 (100%)

Source: Field Study 2022 672

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From table 4 above it was found that 674 respondents who obtained sanitary 675 materials from their parents formed the 676 majority 85(85%), whereas few 677 respondents obtained sanitary materials 678 from their friends 9(9%) while least 679 respondents 4(4%) and 2(2%) obtained 680 them from their own pocket money and 681 schools respectively. It is evident from the 682 table that parents 85(85%) acts as the 683 major sources of sanitary materials for 684 their girls. This shows that parents play 685 their great roles in supporting their girls 686 with sanitary materials. However, it is not 687 stated what kind of sanitary materials 688 parents offer to their girls. If parents offer 689 poor sanitary materials to their girls, the 690 girls might not use them and find those of 691 their preference. On the other hand, there 692 is variation in the economic level among 693 the families; this may create classes 694 among the girls at school as some girls 695 might afford to buy expensive sanitary 696 towels while others would not. The same 697 way some girls are living with their 698 parents while others are not; thus,

those 699 who are not living with their parents may 700 find difficulties in obtaining the sanitary 701 materials of their preferences. 702

A similar observation was made by 703 Malhotra, et. al. [25] in Uttar Pradesh, India 704 revealed that parents' socio-economic 705 status played a great role in 706 comprehensive menstrual hygiene. The 707 parents' education and financial status 708 can influence knowledge and monetary 709 support to girls during menstruation. The 710 variation might create bias among the 711 teenage girls at schools, as the result the 712 girls may respond differently to such 713 condition; some girls may decide to 714 engage themselves to unsafe sexual 715 relationships so that they can get sanitary 716 materials, while others may decide to stay 717

at home during their menses due to 718 inferiority complex. 719

Furthermore, it was observed that 9(9%) 720 of the respondents obtain their sanitary 721 material from their friends. It is good for 722 the friends to help one another in different 723 circumstances. However, this might bring 724 temptation for the girls as they may 725 involve themselves in unsafe sexual 726 relationships which in turn it may lead to 727 early pregnancies and or diseases 728 transmission. A study by Nabikindu [26] in 729 Uganda claimed that the health problems 730 due to unsafe sex amongst youths 731 including sexually transmitted diseases, 732 unplanned early pregnancies and related 733 health complications. In addition, Phillips-734 Howard, et. al. [27] in Kenya observed that 735 lack of adequate sanitary hygiene 736 products forces some girls to use un-737 hygienic materials, potentially increasing 738 urogenital infections. New but limited 739 evidence also suggest that this need 740 leads adolescent girls to engage in 741 transactional sex in order to buy 742 menstrual products. 743

Furthermore, 4(4%) of respondents 744 indicated that they obtained their sanitary 745 materials from their pocket money. It 746 seemed that girls are comfortable once 747 they obtain sanitary towels of their own 748 preference. However, the socio-economic 749 factors influence the choice for sanitary 750 materials. A study by Garikipati, et. al. [28] 751 in India found out that a significant 752 proportion of young girls entering 753 menarche are directly adopting 754 disposable sanitary pads. 755

Lastly, schools were proved to have least 756 involvement 2(2%) on the support for 757 teenage girls' menstrual management. It 758 seemed that the current policies on 759 hygiene management in schools did not 760 put much emphasis on the importance of 761 sanitary facilities for school girls. It is 762 suggested that teenage girls should 763 obtain safe and quality sanitary materials 764 from reliable sources. Thus, the 765 government should work out on the 766 policies that would ensure the availability 767 of sanitary towels for girls and this should 768 be included in the government capitation. 769 The policy would help to reduce bias 770 among girls at schools, ensure 771 sustainable school attendance and hence 772 promote learning. A study by House, et. 773 al. [29] in Tanzania suggested that 774 menstrual hygiene management need to 775 be integrated into programs and policies 776 across key sectors including water, 777 sanitation and hygiene (WASH). 778

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3.3 The Help that Girls Need at 780 Start of their Menstrual Flows at 781 Schools 782

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In the current research study, the help 784 that girls need at the start of their 785 menstrual flow at school was established. 786 Teachers who formed the bulk of the 787 respondents were asked to give their 788 views by choosing among the given 789 alternatives on how they help girls who 790 start their menstrual flow at school. Table 791 5 presents the distribution summary of the 792 respondents' responses on how they help 793 girls who start their menstrual flow at 794 school. 795

Table 5 Help that Girls need at the start of their Menstrual flow at School 796 (n=16) 797

Help

F (%)

Sanitary towel provision 12 (75%)

Permission for going home 2 (12.5%)

No any consideration 1 (6.3%)

Consideration for needy students 1 (6.3%)

Total 16 (100%)

Source: Field Study 2022 798

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From table 5 above it is revealed that 800 respondents who said that they help girls by 801 providing sanitary towels formed the majority 802 12(75%), followed by few respondents 803 2(12.5%) who said that they help girls by 804 allowing them to go back home whereas equal 805 number of least respondents 1(6.3%) said that 806 they have no any consideration and they have 807 consideration for needy students only. It 808 seemed that in many schools there were 809 sanitary towels kept for girls who experience 810 their menstrual flows at school. This was 811 evident in the study as majority of the 812 respondents 12(75%) proved that they 813 provided sanitary towels for girls who started 814 their menstrual flow at school. This is very 815 useful as it reduces the fear of leakage among 816 the girls who start their menstrual flow at 817 school. Moreover, menstrual hygiene 818 management in schools is a great challenge 819 as it needs diverse strategies like availability of 820 water, soap as well as changing rooms. Lack 821 of suitable changing opportunities, ineffective 822 sanitary products, fear of leaking, shame and 823 stigma impedes girls' fullest participation in 824 their schooling [23, 24]. Furthermore, few 825 respondents admitted that they allowed girls to 826 go back home 2(12.5%). It seems that in some 827 schools there is no any help for girls who start 828 their menstrual flow at school. Sending them 829 back home might be good for girls as it keeps 830 them away from shame. However, this is not 831 right since it creates loop hole for truancy in 832 schools also girls fail to attend the on-going 833 lessons. It was further observed by Miiro, et. 834 al. [30] in Uganda that substantial 835 embarrassment, fear of teasing, menstrual 836

pain, and lack of effective materials for 837 menstrual hygiene management led to school 838 absenteeism among adolescent girls. 839

It was evident that in some schools there is no 840 any consideration made to girls who start their 841 menstrual flows at school as it was proved by 842 least respondents 1(6.3%). It seemed that in 843 some schools the school management does 844 not have any kind of help for teenage girls who 845 start their periods at school. This might be due 846 to the fear or lack of awareness amongst girls 847 that they do not ask for such help and or the 848 school managements do not prepare 849 materials for girls. Patabendi [31] in Sri 850 Lanka revealed that most schools were faced 851 with difficulties in menstrual hygiene 852 management such as lack of facilities for 853 changing and safe disposal of used sanitary 854 napkins. 855

Lastly, the study has revealed that in some 856 schools only the needy students were 857 considered for help during their menstrual 858 flows 1(6.3%). Considering the needy students 859 might be good idea as it ensures that every 860 needy student gets the menstrual help. 861 However, it might create classes and be the 862 source of inequality among girls at schools. It 863 is noted that for effective performance of 864 students at schools, the equality concept 865 should be considered in the provision of social 866 services. Equality of opportunity is generally 867 considered to maximize the total social good, 868 increases social gains, and can lead to 869 diffusion of power to individuals [32]. 870

It is suggested that there should be fair 871 treatment for girls to avoid bias at schools. 872 Menstruation should be considered as an 873 important issue for school girls thus policies 874 should be formulated to help girls on menstrual 875 management. The policies should focus on 876 awareness creation, facilities accessibility as 877 well as supportive school infrastructure for 878 proper and hygienic sanitation. By so doing it 879 would enhance sustainable school attendance 880 for girls and hence promote their learning. 881 Providing better sanitary care and puberty 882 education for school girls is one intervention 883 that might provide rapid effects with long 884 lasting positive consequences and thus should 885 be considered seriously by policy makers [33].886

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#### 4. CONCLUSIONS891

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From the current study it can be 893 concluded that most teenage girls have 894 knowledge on menstruation as normal 895 biological function whereas they learned 896 the information from schools. However, 897 majority of the girls were scared during 898 the onset of their first menstruation due to 899 either fear, or the taboo associated with 900 the menarche or a mere fear due to new 901

development and life experience. The 902 study further concluded that, menstruation 903 cycles have negative impacts on 904 sustainable school attendance for 905 teenage girls; the impacts are resulted 906 from health challenges that most teenage 907 girls face during their menstrual flows as 908 well as the menstrual flows management 909 challenges. To ensure sustainable school 910 attendance for teenage girls, on the basis 911 of the study findings the following 912 recommendations are made: the 913 government should ensure that the 914 budget for sanitary towels is included in 915 the government capitation for schools. 916 The school management should ensure 917 that the 10% of the current budget in the 918 free education policy for helping girls who 919 start their menstrual flows at schools be 920 used as planned. The teenage girls 921 should be made aware and consider the 922 menstrual cycles as a normal biological 923 phenomenon for any maturing woman. 924 Thus, it should not hinder their attendance 925 to school. 926

#### SUGGESTIONS FOR FURTHER 927 STUDIES 928

929

1. Efficacy of boys awareness of the 930 girls' bio-physical conditions 931
2. The impacts of menarche on 932 female students' academic 933 performance. 934
3. The effectiveness of the supply of 935 disposable sanitary towels in 936 influencing girls' school 937 attendance. 938

#### COMPETING INTERESTS 939

940

No competing interests exists 941

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#### AUTHORS' CONTRIBUTIONS 944

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All authors read and approved the final 946 manuscript." 947

948

#### CONSENT 949

950

As per international standard of university 951 standard, respondents written consent 952 has been collected and kept by the 953 authors(s) 954

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#### ETHICAL APPROVAL 956

A number of ethical considerations were 957 considered during the study. All 958 respondents were informed about the 959 study in order to have their willingness to 960 cooperate. The participants were not 961 harmed psychologically and were assured 962 of anonymity and confidentiality of the 963 information which they provided. 964

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