Assessment of Liberia's Social Media Landscape for Digitizing Comprehensive Sexuality Education

Prepared by the Consortium for Strengthening Abortion-Related Research Capacity and Evidence in Liberia (CoSARL) for the Amplifying Rights SRHR Network

comprehensive

Contents

List of Acronyms

ARN	Amplifying Rights Network
CoSARL	Consortium for Strengthening Abortion-Related Research Capacity and Evidence in Liberia
CHI	Community Healthcare Initiative
CSE	Comprehensive Sexuality Education
Digital media	Is a blend of technology and content that are shared and stored and distributed in the cloud using electronic devices.
IDI	Inclusive Development Initiative
KII	Key Informant Interview
LIPRIDE	Liberian Initiative for the Promotion or Rights, Identity and Equality
MoH	Ministry of Health
MoE	Ministry of Education
PAYOWI	Paramount Young Women Initiative
PPAL	Plan Parenthood Association of Liberia
RWRS	Rural Women Rights Structure
RFSU	Riskforbundet for Sexuell Upplysning (Swedish Association for Sexuality Education)
Social media	Facebook, Instagram, messenger, TikTok, Etc
Sexuality education	sex education, personal hygiene, access to preventive care, decision about growing up, making the right choices, ensuring the protection of rights Etc
SRH	Sexual Reproductive Health
SRHR	Sexual Reproductive Health and Right
WIMDev	Women In Media Development

WpWHD	West Point Women for Health Development
YAL	Youth Alive Liberia

Executive summary

Background

Sexual and reproductive health (SRH) encompasses physical, emotional, mental, and social well-being regarding sexuality and reproduction. It goes beyond the absence of disease, dysfunction, or infirmity. Everyone has the right to make decisions about their bodies and to access supportive services. However, access to these services is limited in Liberia, and numerous challenges hinder accessibility. Comprehensive sexual and reproductive health and rights (SRHR) include access to reliable information on sex and sexuality, healthcare for sex-related matters, and a supportive environment.

Both the content and the modality of the content are two important aspects to consider when propagating comprehensive SRHR messages.

Goal

The overall goal of this assessment was to understand Liberia's media landscape and identify existing challenges and opportunities for information dissemination and acquisition, specifically around Comprehensive Sexuality Education through the use of Digital platforms.

Objectives

General objective: To obtain information about various social media outlets in Liberia, that will inform decisions in developing and using digital platforms to disseminate comprehensive sexuality education materials.

Methods

Using a mixed method approach, the ARN assessment conducted an electronic survey for 410 adults (18 and above) and 52 parents of children aged 13-17 and interviewed 15 SRHR stakeholders on their institution's social media presence, challenges, and ways forward for digitizing comprehensive sexuality education.

Scope and areas of strategic focus

The scope and areas of strategic focus included the following:

1. Mapping the media context and potential for use of platforms for sexuality education dissemination within the Country
2. Assessing individual perception on providing SRHR-related information/issues.

Key findings

The assessment shows that nearly half of the respondents are highly likely to use social media for obtaining sexuality information, indicating a strong potential for using these platforms for health education (46.7%, 186 respondents).

Internet or social media on smartphones is the most popular source, with 72.4% (295 respondents) using the internet or social media on smartphones to get information about sexual and reproductive health. Facebook is the most widely used social media platform among respondents, with over 80% (331) usage

Overall, Facebook/messenger and WhatsApp are the major platforms that the study participants/respondents share SRHR messages on in Liberia. While there are prospects of using social media to share comprehensive sexuality education, there are still challenges around creating different contents.

Recommendations

There are key recommendations that need to be implemented in order to share comprehensive SRHR education. they include:

1. SRHR education should be synchronize across stakeholders, social media platform and locations
2. SRHR content should represent the local context
3. capacity building for local institution to digitize CSE using different modalities

Introduction

Social media channels have been suggested as effective educational tools to promote secondary prevention measures and behavior changes and as an efficient platform for answering questions from patients and their relatives (Abedin, T., et al., 2017). The effectiveness of social media channels as outlets for public health promotion is just one strength of the media, as its use is also cost-effective, more sustainable, and readily evaluable relative to other approaches or outlets (Gabarron et al., 2018). The different modalities of information dissemination are also highly engaging, as social media applications may also offer features like medication reminders, fitness tracking, and personalized health recommendations. Such features appeal to different audiences, especially young and vulnerable populations (E. Todaro et al., 2018). With the rise of new applications and various innovative ways to interact with users, social media platforms hold the potential for disseminating and digitizing messages on sexual health to targeted audiences (Döring, 2021).

It has been observed that media shows and social media influencers often invite healthcare professionals and experts to share their knowledge and provide advice on health-related topics. Through interviews, talk shows, and panel discussions, these messages are disseminated widely and immediately because they are live on either Facebook, Instagram, TikTok or other media platforms. Social media outlets offer valuable insights into different health issues, debunk myths, and provide evidence-based information effectively and to a larger audience. Social media also provides a community for users with similar interests. For example, there can be a Facebook group for people from a certain age group, geographical location or a group of young girls battling with post abortions trauma or sharing awareness about family planning (Greene et al., 2010).

Furthermore, digitizing health education through social media holds potential to overcome barriers to access. This approach harnesses the power of digital media to reach larger audiences, deliver targeted messages, and facilitate interactive learning experiences. By digitizing health education, the aim is to overcome geographical barriers, increase accessibility to reliable health information, and empower individuals to make informed decisions about their health and well-being. Contextually relevant, privately accessible, and widely available content could empower and equip people with knowledge, skills, attitudes, and values needed to easily communicate sexuality issues, regardless of gender, socioeconomic status, race, geographical location and sexual orientation.

In Liberia, access to SRHR commodities, services, and information is low. However, the widespread use of media for information can be tapped to reduce barriers to high-quality and reliable information, in particular. Liberia's social media landscape consists of various forms of platforms, including Facebook, Facebook Messenger, Instagram, TikTok, WhatsApp, Twitter, LinkedIn, YouTube, Imo, Telegram, and Skype. In addition to these platforms, some of the traditional print media in Liberia have updated their services to include digitization. Some of these include the Daily Observer, The Inquirer, and FrontPage Africa. These newspapers cover a range of topics, including politics, business, sports, and health. The country also has a number of radio and television stations, both public and private. Prominent ones include the Liberia Broadcasting System (LBS), ELBC Radio, Power FM, Truth FM, and SKY FM. These stations broadcast news, music, talk shows, and health programs in various languages, including English, local dialects and the Liberian English. Moreover, social media platforms play a large role in personal

communication. These platforms provide instant news updates, as well as opinion pieces and other forms of content. Overall, Liberia's media landscape is diverse and dynamic, with various forms of media competing for audience attention. Thus, the social media platforms used locally constitute an ideal conduit for providing comprehensive sexuality education to a diverse audience across the country including key populations and other minority groups. To collect evidence on the preferred platforms being used as trusted sources of information by different age groups in Liberia and the modalities of information dissemination found to be most engaging, the ARN seeks to conduct a rapid assessment throughout the 15 political subdivisions of Liberia.

Scope and areas of strategic focus

The scope and areas of strategic focus shall include the following:

3. Mapping the media context and potential for use of platforms for sexuality education dissemination within the Country
4. Assessing individual perception on providing SRHR related information/issues.

Goal

The overall goal of this assessment was to understand the media landscape in Liberia, in order to identify existing challenges and opportunities for information dissemination and acquisition, specifically around Comprehensive Sexuality Education through the use of Digital platforms.

Objectives

General objective: To obtain information about various social media outlets in Liberia, that will inform decisions in the development and use of digital platforms for dissemination of comprehensive sexuality education materials.

Methods

Study setting

The ARN network implements activities in all the 15 counties in Liberia and members have main offices in three counties. Marshall in Margibi, and Palala in Bong and Monrovia and Paynesville in Montserrado counties. Participants for the quantitative component of the study were recruited from across the 15 counties in Liberia while the interviews were conducted in counties where members resided.

Study design

This research utilized a mixed methods study design in two Phases. Phase 1 of the assessment applied quantitative methods to a cross-section of Liberians which was primarily descriptive in nature. A structured, closed-ended questionnaire was made available for self-completion online or for assisted completion via phone survey and social gatherings. This approach was intended to reduce selection bias by only accessing participants with internet access and digital literacy, as the project considered all media including but not limited to online platforms.

Data Collection

For the online survey (phase 1), the survey link was shared on social media platforms namely, Facebook, Instagram and Twitter, WhatsApp and via radio advertisements. For the social media platforms, boosting was used to widely disseminate the information via UL School of Public Health, CoSARL, and ARN pages/accounts, and Liberian blogs with significant followers (See annex A). For the phone survey option, a contact number was shared via radio jingle advertisements and social media platforms. A study team member had a dedicated phone with the study SIM card to receive calls and complete the survey based on participants' verbal responses. Survey questions interrogated sources of information, ranked by preference, as well as costs associated with using them. Participants were also asked about modalities of media that they find most engaging and would therefore be receptive to receiving educational materials in those formats. Given the relevance of education on sexuality for adolescents, each adult participant (18 and above) was asked whether he/she is the caregiver of an adolescent (13-17 years). For those who indicate 'Yes', a set of questions on the media preferences of adolescents were asked. Although this indirect approach is less ideal than asking adolescents directly, it is the most feasible and ethical given the rapid assessment methodology. It also allows for measurement of parental/caregiver willingness for their adolescents to receive educational materials on sexuality via social media and other digital means.

For Phase 2, a qualitative method (key informant interview) including 15 persons/organizations inclusive of ARN network members, and stakeholders from Academic and SRHR institutions in Liberia. As a start, prior to data collection, the study team reached out to the leadership/management of each institution or organization, explaining the purpose of the assessment, and thereby requesting for any designated person who meets the inclusion criteria mentioned below. The key informants were recruited purposefully from three of the counties in which the Amplifying Rights Network is working. In Montserrado County, five (5) SRHR related institutions Plan Parenthood Association of Liberia (PPAL), dkt international & MOH-Family Health Division and Health Promotion and Innovation Preparatory International Academy

alongside eight (8) network members consortium for Strengthening Abortion Related Research Capacity and Evidence in Liberia (CoSARL), Paramount Young Women Initiative (PAYOWI), Youth Alive Liberia (YAL), Liberian Initiative for the Promotion or Rights, Identity and Equality (LIPRIDE), West Point Women for Health Development (WpWHD), Inclusive Development Initiative (IDI), CSO Platform & Women In Media Development (WIMDev). Two network members outside Montserrado, Community Healthcare Initiative (CHI) & Rural Women Rights Structure (RWRS) (See table 2 for details). Each institution and network member mentioned above was represented by one person who was interviewed as a key informant. Key informants were selected based on the fact that they are highly knowledgeable about their institution or organization, a focal person for SRHR activities, knowledgeable about social media, in a decision-making position at their institution or organization. key informants were asked questions about their social media preferences and the modality of messages they propagate through social media.

Data management and analysis

Qualitative

Each Key Informant Interview (KII) lasted approximately 10 to 20 minutes. Data collected during the interview were transcribed verbatim by the PIs, coded, and placed into themes using Nvivo qualitative software.

Quantitative

The tool for the electronic survey was a mixture of social demographic variables and variables about social media uses, and social media platforms. data collection continued until a total of 414 responses were gotten. The electronic responses were downloaded from google forms into excel. based on the data quality and integrity measures set by the data analyst, a total of 410 responses met the criteria. The clean excel file was then loaded into R statistical software for analysis. For questions on preferences, participant had the privilege of selecting multiple responses thus we calculated the number of times a particular variable was mentioned.

Ethical consideration

Each participant received consent before enrolling into the study. Participants younger than 18 years, (ages 13-17) required Parents or guardians to answer about their children's digital tool usage. For the KIIs, audio recording was done to ensure verbatim transcription and accurate quotations. In materials for dissemination, such as reports and manuscripts, key informant interviewees are referred to by a unique ID that was generated during the interview. No names of individuals or institutions will be used. All data collected during this assessment was kept in password protected computers and only PIs and Co-PIs have access to the data. Each transcript was de-identified.

Results

Quantitative

Tables 1: Demographic information

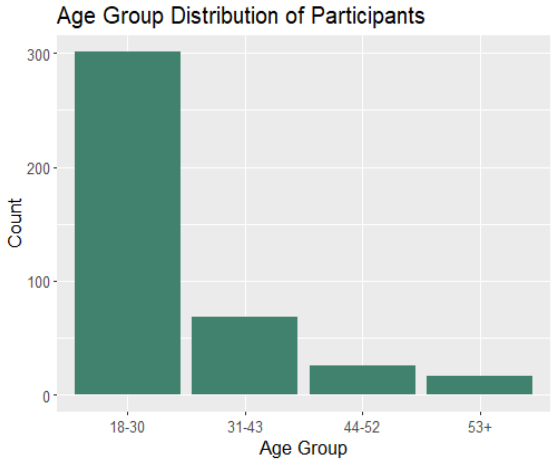
Variables	**n=410**	**%**	**Statistical significance**
Age range			Age + amount spend
18-30	301	73.4	0.00296
31-43	68	16.6	
44-52	25	6.1	
53 and above	16	3.9	
Sex			
Male	191	46.6	
Female	218	53.2	
Prefer not to say	1	0.2	
County (Regional)			
Southeast A	25	6.2	
Southeast B	21	5.2	
South Central	262	64.5	
North Western	52	12.8	
North Central	46	11.3	

City setting		
Urban	267	65.2
Rural	145	34.7
Relationship status		
Married	60	14.8
Cohabiting, In a relationship, Engage	26	6.4
Single, Divorced, Widowed, Separated	320	78.8
Level of education		
No formal schooling, Elementary	39	9.5
Vocational School	5	1.2
Junior High & Senior High	190	46.3
University Degree (Associates or Bachelors) Graduate School	176	42.9
Employment status		
Un-employed	127	30.9
Self-employed	49	11.9
Student and not working	153	37.3
Employed by government	31	7.6
Employed by a company or other non-governmental institution	50	12.2
Internet/network do you often use when using the internet in Liberia		Internet + Cost

LONESTAR	200	49.2	0.2472
ORANGE	146	35.96	
BOTH LONESTAR & ORANGE	48	11.8	
Others	12	2.95	
Money spend daily when using social media			
Less than $1 USD	125	34.1	
Between $1 and $4.99 USD	200	54.5	
Between $5 and $9.99 USD	27	7.4	
$10 USD & above	15	4.0	
How likely are you to use social media to get sexuality information			
Not likely at all	35	8.8	
Somewhat likely	39	9.8	
Less likely	43	10.8	
Likely	95	23.9	
Most likely	186	46.7	

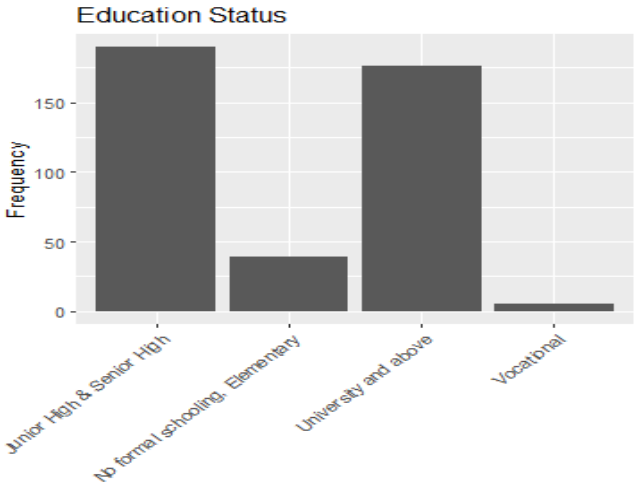
In table 1,18-30 years old constitute 73.4% (301) of the study respondents. This age group is the largest segment. They are the primary users of social media and likely spend more time and money on these platforms. The groups aged 31-43 years old, 44-52 years old, and 53 and above represent 26.6%, with older age groups showing a declining trend in social media usage.

The gender distribution is relatively balanced, with a slight majority of female respondents. Males represent 46.6% (191 respondents) while females represent 53.2% (218 respondents). A significant majority of respondents are from the South Central region (Montserrado, Margibi & Grand Bassa), indicating higher social media use in this area. South Central comprises 64.5% (262 respondents), while Southeast A (Grand Gedeh), Southeast B (Maryland & Grand Kru), North Western (Grand cape mount, Gbarpolu & Bomi), and North Central (Bong, Lofa & Nimba) together consist of 35.5%.



A majority of the respondents reside in urban areas, 65.2% (267 respondents), suggesting better access to the internet and social media than rural areas, which comprise 34.7% (145 respondents), potentially indicating lower internet accessibility. The majority of respondents are single, divorced, widowed, or separated (78.8%, 320 respondents), indicating that social media use is prevalent among individuals without a partner, compared to married, cohabiting, in a relationship, and engaged individuals (21.2%).

Most respondents have a high school education or higher, suggesting that educational level may influence social media use. Junior High & Senior High and University Degree (Associates or Bachelors) and Graduate School constitute 89.2%, while No formal schooling, Elementary, and Vocational School represent 10.8%. A large number of respondents are students and not working, which aligns with the high percentage of young respondents (37.3%, 153 respondents).



A significant portion of respondents are unemployed (30.9%, 127 respondents). Self-employed, employed by the government, and employed by a company or other non-governmental institution constitute 31.8%. Lonestar is the most popular internet provider (49.2%, 200 respondents), followed by Orange (35.96%, 146 respondents), and others. Most users spend between $1 and $4.99 daily on social media (54.5%, 200 respondents).

Nearly half of the respondents are highly likely to use social media for obtaining sexuality information, indicating a strong potential for using these platforms for health education. The likelihood ranges from Most likely (46.7%, 186 respondents), Likely (23.9%, 95 respondents), Less likely (10.8%, 43 respondents), Somewhat likely (9.8%, 39 respondents), to Not likely at all (8.8%, 35 respondents). The p-value (0.00296) indicates a statistically significant difference in social media usage across different age groups, reinforcing the focus on younger demographics for health information dissemination.

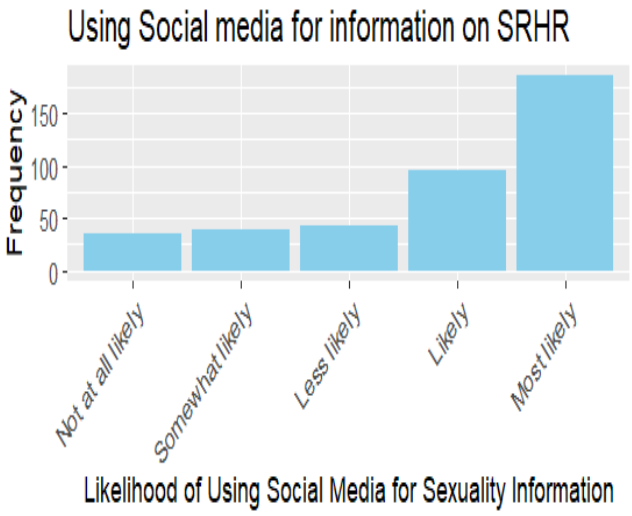


Table 2: City setting and age categories

Rural or Urban city setting compared Age group of participants			
Age group	Rural n(%)	Urban n(%)	
18-30	86 (60.6)	214 (80.1)	< 0.001
31-43	35 (24.6)	33 (12.4)	
44-52	14 (9.9)	11 (4.1)	
53+	7 (4.9)	9 (3.4)	

A significantly higher percentage of participants in the urban setting fall within the 18-30 age group (80.1%) compared to the rural setting (60.6%), with a p-value of <0.001 indicating a statistically significant difference. The 31-43 age group has a higher representation in the rural setting (24.6%) compared to the urban setting (12.4%). Similarly, the 44-52 age group is more represented in rural areas (9.9%) than in urban areas (4.1%). The age group 53 and above also shows a higher percentage in rural areas (4.9%) than in urban areas (3.4%).

Table 2: Access to SRHR Information

How do you get information about sexual and reproductive health?		
	Yes n (%)	No n (%)

Radio	171 (41.7)	239 (58.2)
Television	64 (15.6)	346 (84.3)
Newspaper	61 (14.8)	349 (85.1)
Friends/family	168 (40.9)	242 (59.0)
Internet or social media on Smartphones	295 (72.4)	113 (27.5)
Button phones	40 (9.8)	370 (90.2)
Internet or social media on Tablets	57 (13.9)	353 (86.1)
Internet or social media on Computer	68 (16.6)	343 (83.4).
	342 (83.4)	68 (16.6)

A significant portion of respondents, 41.7% (171 respondents), reported using the radio to get information about sexual and reproductive health. However, the majority, 58.2% (239 respondent), do not use this medium for such information. Only 15.6% (64 respondent) use television to obtain sexual and reproductive health information, while a vast majority, 84.3% (346 respondents), do not rely on this source. Similarly, newspapers are not a major source of information, with only 14.8% (61 respondents) using them, compared to 85.1% (349 respondents) who do not. Interpersonal sources like friends and family are relatively important, with 40.9% (168 respondents) using them for information, though 59.0% (242 respondent) do not.

Internet or social media on smartphones is the most popular source, with 72.4% (295 respondents) using the internet or social media on smartphones to get information about sexual and reproductive health. Only 27.5% (113 respondents) do not use smartphones for this purpose. A small fraction, 9.8% (40 respondents), use button phones for accessing information, whereas the vast majority, 90.2% (370 respondents), do not. Tablets are not widely used for this type of information, with only 13.9% (57 respondents) using them, while 86.1% (353 respondents) do not. Computers are slightly more used than tablets, with 16.6% (68 respondents) getting information this way, but still, the majority, 83.4% (343 respondents), do not.

Table 3: Social media usages

Which social media platform do you normally use?	P-value (Age)

	Yes n (%)	No n (%)	
Facebook	331 (80.7)	79 (19.2)	0.006
Instagram	168 (40.9)	242 (59.0)	0.003
WhatsApp	305 (74.3)	105 (25.6)	0.004
Twitter	58 (14.4)	352 (85.8)	0.036
LinkedIn	77 (18.8)	333 (81.2)	0.004
YouTube	170 (41.4)	240 (58.5)	0.216
Imo	20 (4.8)	390 (95.1)	0.042
Skype	16 (3.9)	394 (96.0)	0.001
TikTok	153 (37.3)	257 (62.7)	0.011
Telegram	87 (21.2)	323 (78.8)	0.596
Messenger	271 (66.1)	139 (33.9)	0.0001

Facebook is the most widely used social media platform among respondents, with over 80% (331) usage. This high usage indicates a strong potential for disseminating health information through Facebook. Messenger is used by 66.1% of respondents, indicating it is a significant platform for communication and has strong potential for sharing health information. WhatsApp is another highly used platform, with over 74% of respondents using it. Its high usage and instant messaging capabilities make it a key platform for sharing sexual and reproductive health information. Instagram is used by around 41% of respondents. Although not as widely used as Facebook, it still represents a significant portion of the population.

YouTube is used by 41.4% of respondents, showing it has a moderate reach. The platform's potential for sharing video-based sexual and reproductive health information is notable despite not being the most popular. TikTok is used by 37.3% of respondents. Its growing popularity, especially among younger audiences, makes it a potential platform for engaging health content. Telegram has a moderate usage of 21.2%. It may be useful for sexual and reproductive health campaigns but not as broadly impactful as other platforms. LinkedIn usage is low at 18.8%, indicating it is less popular among the general population for sexual and reproductive health-related information.

Twitter has a relatively low usage rate at 14.4%. This suggests it may not be the most effective platform for sexual and reproductive health information dissemination. Imo and Skype have a very low usage at 4.8% and 3.9% respectively, making them less significant sexual and reproductive health information dissemination.

Facebook, WhatsApp, and Messenger are the top platforms for sexual and reproductive health information dissemination due to their high usage rates. Age significantly influences the usage of most social media platforms, especially Messenger, Instagram, and TikTok, with p-values <0.05 which are more popular among younger users.

Table 4: social media preference

What social media platform would you prefer for people to share sexuality education		
SOCIAL MEDIA	**Yes(%)**	**No(%)**
Facebook	346 (84.3)	64 (15.6)
Instagram	169 (41.2)	241 (58.8)
YouTube	150 (36.6)	260 (63.4)
Telegram	72 (17.6)	338 (82.4)
WhatsApp	229 (55.9)	181 (44.1)
Messenger	181 (44.1)	229 (55.9)
Twitter	75 (18.3)	335 (81.7)
TikTok	178 (43.4)	232 (56.5)
LinkedIn	69 (16.8)	341 (83.1)
Radio	190 (46.3)	220 (53.7)
Television	114 (27.8)	296 (72.1)
Skype	21 (5.1)	389 (94.9)
Imo	21 (5.1)	389 (94.9)

Facebook, with 346 respondents (84.3%), and WhatsApp, with 181 respondents (44.1%), are the top platforms for sharing sexuality education due to their high preference among respondents. Radio, with 190 respondents (46.3%), and Messenger, with 229 respondents (55.9%), could also play significant roles, reflecting their accessibility. TikTok, with 178 respondents (43.4%), and Instagram, with 169 respondents (41.2%), are crucial for engaging younger audiences. YouTube's potential for video content, although moderately preferred with 150 respondents (36.6%), remains

important. Traditional media like television, with 114 respondents (27.8%), and less preferred platforms like Twitter, with 75 respondents (18.3%), Telegram, with 72 respondents (17.6%), LinkedIn, with 69 respondents (16.8%), Skype, and Imo, both with only 21 respondents (5.1% each), are less significant but can complement the primary platforms for a comprehensive approach to sexuality education dissemination.

Table:

Rural or Urban city setting compared to type of social media preference for SRH Education			
Platform	Urban n(%)	Rural n(%)	P- Value
Facebook			
No	36 (33.0)	28 (43.8)	0.1312
Yes	231 (67.0)	114 (56.3)	
Instagram			
No	127 (52.7)	114 (47.3)	< 0.001
Yes	140 (83.3)	28 (16.7)	
YouTube			
No	145 (56.0)	114 (44.0)	< 0.001
Yes	122 (81.3)	28 (18.7)	
Telegram			
No	205 (60.8)	132 (39.1)	< 0.001
Yes	62 (86.1)	10 (13.8)	
WhatsApp			
No	128 (70.7)	53 (29.3)	0.05078
Yes	139 (61.0)	89 (39.0)	
Messenger			
No	169 (74.1)	59 (25.9)	< 0.001
Yes	98 (54.1)	83 (45.9)	
Twitter			
No	199 (59.4)	136 (40.6)	< 0.001
Yes	68 (91.9)	6 (8.1)	
TikTok			
No	113 (48.9)	118 (51.1)	< 0.001
Yes	154 (86.5)	24 (13.5)	
LinkedIn			
No	207 (60.7)	134 (39.3)	< 0.001
Yes	60 (88.2)	8 (11.8)	
Radio			
No	158 (72.1)	61 (27.9)	0.002472
Yes	109 (57.4)	81 (42.6)	
Television			
No	173 (58.6)	122 (41.4)	< 0.001
Yes	94 (82.5)	20 (17.5)	
Skype			
No	248 (63.9)	140 (36.1)	0.01631

Yes	19 (90.5)	2 (9.5)	
Imo			
No	249 (64.2)	139 (35.8)	0.05772
Yes	18 (85.7)	3 (14.3)	

There is no significant preference difference for the use of Facebook, WhatsApp, and Messenger between rural and urban settings. Instagram, YouTube, Telegram, Twitter, TikTok, LinkedIn, and Television are significantly preferred in urban areas compared to rural areas. Radio is highly preferred in rural settings (57.4%) compared to urban settings (42.6%), with a p-value of 0.002472. Including Facebook, Instagram, YouTube, Telegram, Twitter, TikTok, LinkedIn, and Television in urban settings could be effective for SRH education. In rural settings, focus on Facebook, Messenger, Radio, and possibly WhatsApp, given their relatively higher or comparable usage.

Table 5: Content that are viewed on social media

What content do you usually view on social media			P-value (Age)	P-value (EDU)
	Yes	No		
Images/pictures	299 (72.9)	111 (27.0)	0.1029	0.0001
Videos	279 (68.0)	131 (32.0)	0.0234	0.0001
Audios	158 (38.5)	252 (61.5)	0.0018	0.0001
News	214 (52.2)	196 (47.8)	0.0499	0.0001
Academics	234 (57.1)	176 (42.9)	0.4217	0.0001
Religious teachings	203 (49.5)	207 (50.5)	0.8874	0.0001
Comedy/Drama	236 (57.6)	174 (42.4)	0.5434	0.0001
Music	172 (42.0)	238 (58.0)	0.4917	0.0004
Sports	156 (38.0)	254 (62.0)	0.8862	0.0005

The table reveals that images/pictures (72.9%) and videos (68.0%) are the most commonly viewed content on social media among respondents, followed by comedy/drama (57.6%), academic content (57.1%), and news (52.2%). There are significant differences in content preferences based on educational levels across all types of content ($p < 0.01$). Age-related differences are significant

for videos (p = 0.0234), audios (p = 0.0018), and news (p = 0.0499), suggesting these content types may need to be tailored to different age groups for effective dissemination of sexuality education.

Table 6: prefer Modality of content

How do you wish sex education should be provided?		
	Yes n (%)	No n (%)
Comedy/Drama	267 (65.1)	143 (34.9)
Flyers	236 (57.6)	174 (42.4)
Music	164 (40.0)	246 (60.0)
Religious teachings	207 (54.5)	203 (49.5)
Teaching in school	339 (82.7)	71 (17.3)
Community discussions	301 (73.4)	109 (26.6)

Three hundred thirty-nine respondents (82.7%) support sex education being taught in schools. Community discussions are preferred by 301 respondents (73.4%), suggesting that community engagement and open dialogues are highly valued for sex education. A significant majority of respondents, 267 (65.1%), prefer sex education to be provided through comedy or drama, suggesting an engaging and entertaining format can be effective. Flyers are favored by 236 respondents (57.6%), indicating that printed materials are still a valuable resource for disseminating information. Religious teachings are preferred by 207 respondents (54.5%), highlighting the importance of integrating sex education within religious contexts for some individuals. However, 203 respondents (49.5%) do not favor this approach, indicating a nearly even split in preference. Music is a preferred medium for 164 respondents (40.0%), while a majority of 246 respondents (60.0%) do not consider it an effective way to receive sex education. This indicates that while music can reach a segment of the population, it may not be the primary medium for educational content.

Table 7: Children 13 to 17 (Demographic Information)

Variables	**n=410**	**%**
Have Child aged 13-17		
No	328/408	80.4
Yes	80/408	19.6

Would you mind answering a few more questions about your child's social media use?		
No	28	34.1
Yes	54	65.9
Child County (Regional)		
Southeast A	1/45	2.2
Southeast B	1/45	2.2
South Central	30/45	66.6
North Western	3/45	6.6
North Central	10/45	22.2
Sex (Child)		
Male	15/45	33.3
Female	30/45	66.6
Age (Child)		
Median	13	14-16
City setting (Child)		
Urban	28/45	62.2
Rural	17/45	37.7
Level of education (Child)		
Elementary	11/44	25.0
Junior High	20/44	45.5
Senior High	12/44	27.3
No formal schooling,	1/44	2.3
child have access to his or her own phone?		
No	13/44	29.5
Yes, a button phone	6/44	13.6
Yes, a smart phone	25/44	56.8
Does your child have access to a computer?		
No	34/43	79.0
Yes	9/43	20.9
Does your child know how to use social media?		
No	7/44	15.9
Yes	32/44	72.7
Don't Know	5/44	11.6
Yes	44	100
No	0	0.0
On average, amount spend daily for your child to use social media		
Less than $1 USD	24	64.9
Between $1 and $4.99 USD	12	32.4
Between $5 and above	1	2.7

Average time child spend using social media each day		
Less than 15 minutes	6	17.6
15 to 30 minutes	11	32.4
30 minutes to less than an hour	11	32.4
An hour or more	6	17.6
Do you place any restrictions on your child's social media use?		
No	18	41.9
Yes	25	58.1
Do you think your child is currently searching for information about sexual health online?		
Don't Know	27	62.8
No	11	25.6
Yes	5	11.6

Understanding social media use among children aged 13 to 17 and its potential for sharing sexual and reproductive health information is crucial. Out of the 410 respondents, approximately 20% have children between the ages of 13 and 17. Most parents (66%) consented to answer questions about their child's social media use, indicating a strong interest in understanding and possibly controlling their children's online activities. The majority of the children are female, with a median age of 13 (IQR of 14-16), indicating a focus on younger teens. Most children are in junior high (20, 45.5%) or senior high (12, 27.3%), suggesting that sex education content needs to be age-appropriate and aligned with their educational level.

A significant number of children have access to smartphones (25, 56.8%), while access to computers is lower (9, 20.9%). This highlights the importance of mobile-friendly content. Most children (32, 72.7%) know how to use social media, making it a viable platform for disseminating information. All parents expressed a preference for their children to receive sex education via social media, indicating strong support for using these platforms for educational purposes. Most parents (24, 64.9%) spend less than $1 daily on their child's social media use, and the average time spent on social media is moderate. This suggests that while social media is frequently accessed, it may be in short bursts.

Many parents (25, 58.1%) place restrictions on their child's social media use, and a significant number (27, 62.8%) are unsure if their child is searching for sexual health information online. This points to a need for increased parental education and resources to help them guide their children's online activities effectively.

Table 8:Children 13 to 17 (Social Media presence)
The table provides an overview of the social media presence among children aged 13 to 17 in Liberia, detailing the platforms they use and the percentage of users for each platform.

Variables	**n=45**	**%**

If yes, which social media platform		
	Yes n (%)	**No n(%)**
Facebook	23 (51.1)	22 (48.9)
Instagram	9 (20.0)	36 (40.0)
TikTok	12 (26.7)	33 (73.3)
WhatsApp	18 (40.0)	27 (60.0)
Twitter	1 (2.2)	44 (97.8)
LinkedIn	1 (2.2)	44 (97.8)
Radio	10 (22.2)	35 (77.8)
Television	3 (6.6)	42 (93.3)
Messenger	18 (40.0)	27 (60.0)
YouTube	11 (24.4)	34 (75.6)

Facebook is the most popular platform among children aged 13 to 17, with over half of the respondents using it (51.1%, 23 children). WhatsApp and Messenger are also relatively popular, with 40% of the respondents using these platforms. TikTok and YouTube have moderate usage, with approximately a quarter of the children using these platforms, 26.7% (12 children) and 24.4% (11 children) respectively. Despite Instagram being a popular social media platform globally, it is used by only 20% of the respondents. Twitter and LinkedIn are the least used platforms, each with only 2.2% of the respondents using them. Traditional media like radio and television have lower usage compared to social media platforms, with 22.2% and 6.6% of children using them, respectively.

The data suggests that social media platforms, particularly Facebook, WhatsApp, and Messenger, are widely used by children aged 13 to 17 in Liberia. These platforms could be effective channels for sharing health information, including education around sexual and reproductive health. In contrast, platforms like Twitter and LinkedIn, as well as traditional media like radio and television, have significantly lower usage among this age group and may be less effective for reaching them with health information.

This table provides an overview of the types of content children aged 13 to 17 in Liberia view on social media. It also includes the statistical significance of the data in relation to age and education (EDU).

Table 9: Children 13 to 17 (content viewed on social media)

What content do your child usually view on social media			P-value (Age)	P-value (EDU)
	Yes	**No**		
Images/pictures	27 (60.0)	18 (40.0)	0.02653	0.01766
Videos	29 (64.4)	16 (35.6)	0.1789	0.009708
Audios	14 (31.1)	31 (68.9)	0.2177	1
News	10 (22.2)	35 (77.7)	0.04003	0.7288
Academics	21 (46.7)	24 (53.3)	0.3934	0.2015
Religious teachings	11 (24.4)	34 (75.6)	0.2914	0.4594
Comedy/Drama	22 (48.9)	23 (51.1)	0.5169	0.4957
Music	22 (48.9)	23 (51.1)	0.04675	0.3067
Sports	10 (22.2)	35 (77.8)	0.02594	0.7288

Images/pictures and videos are the most viewed content among children aged 13 to 17, with 60.0% and 64.4% respectively. Viewing images/pictures is statistically significant in relation to both age and education, while viewing videos is significant only in relation to education. Music is also popular, with 48.9% of children viewing this type of content, and its viewing is statistically significant in relation to age. These types of content could be effective mediums for sharing health information, including education around sexual and reproductive health. The statistical significance indicates that age and education play a role in the types of content viewed, which can be important for targeting specific demographics. Comedy/drama and academic content have a balanced split, with 48.9% and 51.1% of children viewing these types of content, respectively. Audios, religious teachings, news, and sports are less popular, with less than a third of the children viewing these types of content. However, viewing news and sports content is statistically significant in relation to age.

Table 10: Children 13 to 17

This table provides insights into how children aged 13 to 17 in Liberia obtain information about sexuality education.

How does your child get information about sexuality education		
	Yes n (%)	**No n (%)**
Don't Know	**11 (24.4)**	**34 (75.6)**
No access to information about sexual education	**1 (2.2)**	**44 (97.8)**
Radio	**17 (37.8)**	**28 (62.2)**
Television	**8(17.8)**	**37 (82.2)**
Newspaper	**5 (11.1)**	**40 (88.9)**
Friends/families	**23 (51.1)**	**22 (48.9)**
Internet/smartphones	**15 (33.3)**	**30 (66.7)**
Button phones	**4 (8.9)**	**41 (91.1)**
Tablets	**6 (13.3)**	**39 (86.7)**
Computer	**2 (4.4)**	**43 (95.6)**
Others	**2 (4.4)**	**43 (95.6)**

Friends and families are the most common source of information about sexuality education, with 51.1% of children relying on them. Radio is another significant source, used by 37.8% of children. Internet and smartphones are used by 33.3% of children, highlighting the importance of digital platforms. Television and tablets are less commonly used, with 17.8% and 13.3% of children, respectively, accessing information through these sources. Newspapers, button phones, and computers are the least common sources, each used by less than 12% of children. A small percentage (2.2%) of children have no access to information about sexuality education, indicating a potential area for intervention.

The data suggests that friends and families, radio, and the internet/smartphones are the primary sources of sexuality education for children aged 13 to 17 in Liberia. These sources could be leveraged for sharing sexual and reproductive health education. Traditional media like television and newspapers, as well as digital devices like tablets and computers, are less commonly used. Identifying and targeting the most commonly used sources can help ARN effectively disseminate important health information to this demographic.

Table 11

This table shows the preferred social media platforms for sharing sexuality education among children aged 13 to 17 in Liberia

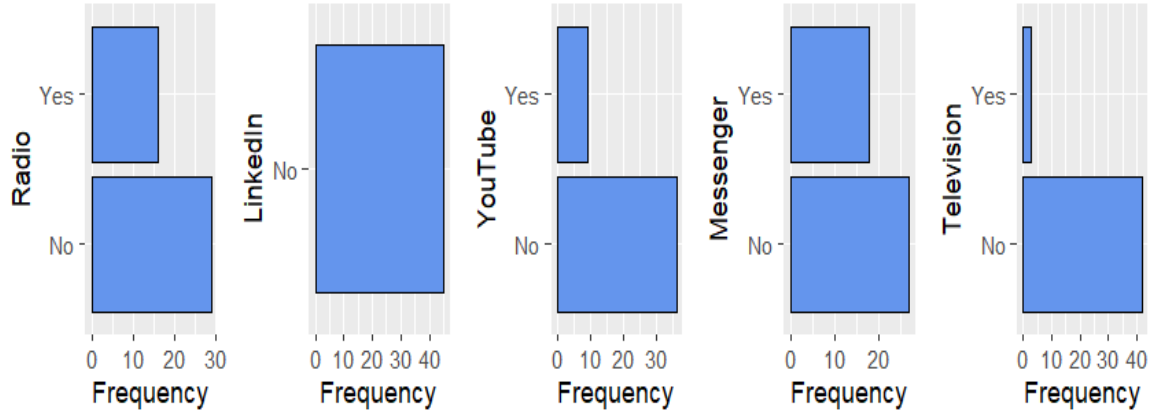
What social media platform would your child prefer for people to share sexuality education

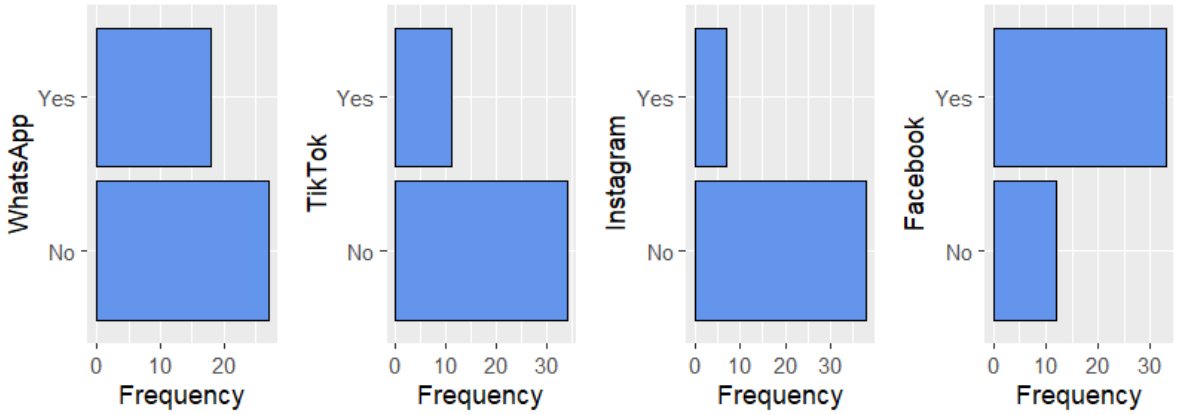
	Yes n(%)	No n(%)
Facebook	**33 (73.3)**	**12 (26.7)**
Instagram	**7 (15.6)**	**38 (84.4)**
TikTok	**11 (24.4)**	**34 (75.6)**
WhatsApp	**18 (40.0)**	**27 (60.0)**
Television	**3 (6.7)**	**42 (93.3)**
Messenger	**18 (40.0)**	**27 (60.0)**
YouTube	**9 (20.0)**	**36 (80.0)**
LinkedIn	**0 (0.0)**	**0 (100)**
Radio	**16 (35.6)**	**29 (64.4)**

Facebook is the most preferred platform for sharing sexuality education, with 73.3% of children favoring it. WhatsApp and Messenger are also significant, with 40.0% of children preferring each of these platforms. Radio is preferred by 35.6% of children, indicating that traditional media still holds some relevance. TikTok and YouTube have moderate preference, with 24.4% and 20.0% of children respectively. Instagram, television, and LinkedIn are the least preferred platforms, with Instagram preferred by less than 16% of children.

The data suggests that Facebook, WhatsApp, and Messenger are the most effective platforms for sharing sexuality education among children aged 13 to 17 in Liberia. Radio also has a notable preference, indicating that both social media and traditional media could be effective for disseminating health information. In contrast, platforms like Instagram, television, and LinkedIn are less favored and may be less effective for reaching this demographic with sexuality education.

What social media platform would your child prefer for people to share sexuality education




WhatsApp
Yes
No
0
10
20
Frequency
TikTok
Yes
No
0
10
20
30
Frequency
Instagram
Yes
No
0
10
20
30
Frequency
Facebook
Yes
No
0
10
20
30
Frequency

Key findings: Qualitative

Fifteen stakeholders were purposively sampled to do an in-depth interview with the goal of exploring their perspectives, modality of content, challenges and recommendations about the use of digital platforms for SRHR activities across the fifteen counties in Liberia. Stakeholders providing SRHR services ranging from awareness, distributions of products, direct service provision and those working on minority populations inclusions. All ARN eight members, the Plan Parenthood Association of Liberia, an educator, a donor, and the ministry of Health were part of the interview.

Table 2: Composition of KIs

No.	**Name of Institution**	**Mandate/Area of focus**
1	DKT	Contraceptive and social marketing
2	PPAL	Reproductive Health and Family Planning
3	PAYOWI	Advancing the rights of adolescent girls and young women
4	IDI	Advocacy for Disability rights
5	LIPRIDE	Advocacy for LGBTQ+ rights
6	West Point Women for Health Development	Local women and children advocacy
7	Rural women and Girls' Right Foundation	Marginalized women and girl's empowerment
8	Community Healthcare Initiative	Providing healthcare, access to justice, and social services to women and girls
9	Women in Media Development	Media and advocacy
10	Youth Alive	Health, human right and development for youth
11	CSO platform	Human Right Advocacy
12	RFSU	Donor SRHR programs
13	Family Health MoH	Government SRHR focal point
14	Health Promotion MoH	Government SRHR promoter
15	Innovation Preparatory International Academy	Academic institution

Table: Themes and Subthemes Emerging from Interviews

Themes	*subthemes*
Theme 1: Most used and viewed social media platform in Liberia	
Theme 2: Modality of content	
Theme 3: Challenges	*3.1. Lack of technical expertise for content creation* *3.2. Challenge with internet connectivity*

	3.3. Societal Biases
Theme 4: Prospects of digitizing Sexuality education	

Theme1: Most used and viewed social media platform in Liberia

Many of the stakeholders working on SRHR programs in Liberia mentioned that they use either facebook/Messenger or whatsapp to share messages or create awareness about products and services, events and as a means to interact with their audience.

> *"Facebook is one of the means that we are seeing lot of information we share and in the whole world Facebook is one if not the best social media platform that any entity or organization can use to promote their brand to create awareness and to give an information of the things they do. So that's why we use Facebook". (KII_01)*
>
> *"we use the whatsapp too because we have group chats and other things so we use whatsapp and we send information in our group chats. But you know Facebook also has messenger, so we can also send it in messenger too to our group chat". (KII_02)*
>
> *"Yes because we want message of ministry of health goes out there. So basically, right now we see many people are not listening to radio but rather you see the person will go and buy their few data to go on Facebook. So to get the message out there, we decided to get a Facebook page because many people right now if you go on Facebook so we decided. Even to see people going to reach or website in Liberia, yes we know that some go there but when you talk about the majority, they go for Facebook and thing. So yes ministry of health has Facebook page and every activities that you know about, we write and post on our Facebook page". (KII_14)*
>
> *"Because it's widely used by the general public most especially the youthful population. It's much more accessible because most often you find the usage of Facebook, once you are using orange, which is widely used, you have free basis where people can as well access information with photo so we can basically use, you find people most often using Facebook". (KII_06)*

> *"okay looking at the Liberian space more especially around the issue of the connectivity basically we focus on using Facebook and sometimes Instagram. But frequently is Facebook because most of the young people are using it and we also do Tiktok but is not as often or commonly used by young people in Liberia". KII_o4*

Theme 2: Modality of content

The messages that are posted to social media have to be in a way that appeals to the intended audience. As such, SRHR stakeholders interviewed mentioned posting pictures/graphics and text(description or details about the picture) is the mode in which most institutions propagate their content on social media.

> *"We normally for communication, we do a write out. Those picture carries the message but we don't just leave it with picture, we do a write up. We write and tell you what the event or what this thing is about. Anytime you see a picture, we have write out under it. So we always post picture with a write out".KII_15*
>
> *"so it is text, usually its text and sometimes maybe short funny videos that also promote, that carry messages across but is in a small carton like but the text is more than those other short videos or the carton like kind of stuff". KII_05*
>
> *"sometimes it's done using writing or graphics". KII_04*
>
> *"So we do it in a picture form where we bring a flyers we showing the simple how it be like, like even the issue of discussing sexual and reproductive health and right they include some crucial part of it where everybody have to be around the table to give their input we do that and then we also do it printing it in boreal because reason we print some of the sexual and reproductive health and right information in* braille *for all the virtually impair so that they can be able to do it, for some of them we do not have a smart phone to see it online".KII_03*

*Theme 3: **Challenges***

Across the many stakeholders interviewed, challenges related to technical expertise for content creation, internet connectivity, and social biases were mentioned

***Sub**Theme 3.**1**: challenges: Lack of technical expertise for content creation*

Sexual Reproductive Health and Rights is a new space to Liberia and most of the institutions working on SRHR programs express lack of technical expertise to create fascinating content. some of the respondents expresses need for capacity in SRHR

> *"So I think finding someone who is trained and qualified that will present the materials at a different level of age group, that will be the more challenge for me. So even if you have the information, how do you present it so that teenagers understand it at different stages? That will be the challenge". KII_13*

> *"Everybody have their limitations so I don't really know how to create those smaller videos so what I do is when I come across them either from the ARN group chat or when I go on YouTube and watch them, than I download it to my phone and share it but personally I don't know how to create a video using the different cartons. Yes, I am limited when it comes to that". KII_05*

> *"For the hearing impair we also post it so that they themselves can be able to read it because we don't have the means of putting it in sound language and then publish it. We hoping that from now to December we going to do it and like even on our own Facebook page some issue around sexual reproductive health and radically sound language. Mainly in sound language so that our out of hearing brothers and sisters can get the information". KII_03*

> *"we have to take into consideration the language barrier when it comes to the rural area and urban area and maybe some little cartoons and also, we can fix flyers that we could just place them at some public areas (school, homes) and what have you. Let people see and visual it and understand the message that on the visual posters" KII_09*

> *"Our teachers are not properly equip to talk about or to have this conversation with young people in detail to the extent that they need to be discussed. A lot of people focus is around Biology and menstrual hygiene in some specific areas not all but that's the place it ends" KII_12*

Subtheme 3.2 *Challenge with internet connectivity*

The stakeholders interviewed had similar experiences with internet connectivity being a challenges with their institutions plan to digitize sexuality education in Liberia. Most respondents described the network connections in Liberia as being challenging in posting content to social media.

"It helps make information more accessible and available because the world right now is on digital even though we have some challenges as it relates to how we access the internet in Liberia but it's much more better in getting the message across".KII_06

"When you posting sometimes you don't have the internet on you have to use your phone. The internet on the phone is not strong enough to be able to post videos so it become a challenge. And sometimes you try, try you get tired so that's what happens. So, when you see us posting videos is when our internet is on". KII_02

"one could be internet because you know we are not also financially strong so to get every day on the internet it means we should have access to internet facility, internet access that will also help us too" KII_03

"People in the rural area might likely or might likely not benefit largely because most of them will tell you that they don't have smart phones, they don't have access to internet or even if they have access to internet, the high poverty rate and all of that. Looking at 200 everyday buying data for internet packages not for people like us who are working and know the important of it so, it will be a bit challenging" KII_04

Subtheme 3.3: *societal Biases*

Key informants were asked about the different challenges they have faced since working on SRHR issues and there were responses of societal acceptance, bullying for minority populations and parents' understanding of what CSE is about.

"what happened is that most of the work that we do we want people to be aware of that so what we do we send back and sometimes there was a time when I went to Freeport to talk about FGM because it's also part of the sexual and reproductive health awareness. And I was parked there by one guy even though we had more people but that guy was very adamine and had a lot to say about me and so forth but in the end, I was able to win the conversation. Because for me I don't backdown but anyway these are the things we do and sometimes we post on social media about issues we are working with". (KII_02)

"People are not talking about prevention, people are not talking about diseases because the assumption is that when you start to go in debt, you are rubbing the child off their innocence or you introducing them to sex act at the early age whereas CSE is not about that, CSE is not providing young people information about sex, it's equipping them with the skills and tools so that

when they choose to have sex they are prepare to know how to go about it, they understand consent respect and how to treat their partners" KII_12.

"as an institution we do have a website but the issue that we work on is very sensitive as it relates to human right of sexual minority and we find out that most of the time when it comes to these stuff there is bullying, people will go on your personal page and sometimes they go your institution page and download pictures that they will use against you and [Name of Institution] has 18 different members and in other to post information on our webpage, it's kind of difficult. Everybody is afraid that they might get outed because most of the members in [Name of Institution] only few of them are out out when it comes to sexuality but other people are closeted. So those are the reason we don't really post on our website but we are thinking about redesigning or restructuring the different messages and the page so that hopefully as of this year, there will be up to active". (KII_05)

Theme 4: Prospects of digitizing Sexuality education

The Key informants revealed that even though there are challenges in sharing comprehensive sexuality education in Liberia, there are also so many chances of gains that Liberia stands to benefit if we digitized SRHR contents. During the interview, Key informants express excitement for that process and shared some of the benefits of digitizing SRHR contents.

"It's very important. It is an accessibility rather than a want because the more you are expose to a particular information, the more you will take precaution, the more you are informed you make informed decisions about everything and it helps guide in your decision making as well. So, it's something that I will definitely incorporate and encourage our school to include health club for both boys and girls as part of our extra curriculum activities". (Educator)

Discussion

The study provides valuable insights into social media usage patterns and preferences among individuals in Liberia, with a particular focus on their potential for disseminating sexual and reproductive health (SRH) information. The majority of respondents (73.4%) fall within the 18-30 age range, indicating that younger demographics are the primary users of social media in Liberia. This age group also shows the highest likelihood of using social media for obtaining SRH information, highlighting their potential as a target audience for health campaigns.

Several studies globally have shown that younger demographics tend to be the primary users of social media platforms. For instance, research in other African countries like Nigeria and Kenya has also identified young adults as the dominant users of social media for accessing health information, such as SRH. This aligns with our finding that 73.4% of respondents in Liberia fall within the 18-30 age range (Pew Research Center, 2021; Adikpo & Achakpa-Ikyo, 2022; Kharono et al., 2022).

A significant portion of respondents have attained at least a high school education (89.2%), with many currently students (37.3%) or unemployed (30.9%). This finding emphasizes educational background and employment status as factors that influence social media use and access to health information, particularly sexual and reproductive health (SRH). Research globally has shown a positive correlation between higher educational attainment and increased use of social media platforms for accessing health information (Park et al., 2016), because those with lower educational levels might face barriers in effectively utilizing social media for health information due to digital literacy or access issues. Aligned with the findings, studies have observed that unemployment or underemployment can affect individuals' access to health information (Chang et al., 2016; Kontos et al., 2014; Pew Research Center, 2019).

The study identifies Facebook as the most widely used platform (80.7%), followed by WhatsApp (74.3%) and Messenger (66.1%). Instagram (40.9%) and YouTube (41.4%) also have substantial usage, albeit to a lesser extent, suggesting diverse avenues for engaging with health-related content. Research in various regions often confirms the dominance of platforms like Facebook and WhatsApp for social media use, including accessing health information (Al Mamun & Ibrahim, 2020; Pew Research Center, 2021). These platforms are favored for their wide user base and accessibility, making them effective for disseminating SRH information.

Images/pictures (72.9%) and videos (68.0%) are the most viewed content types, indicating a preference for visually engaging formats. This aligns with preferences for comedy/drama (57.6%) and music (42.0%), underscoring the potential of multimedia content in SRH education campaigns. Our findings align with other studies indicating a strong preference for visually engaging content formats like images and video (Singhal & Rogers, 1999; Pew Research Center, 2019). The inclusion of multimedia elements such as comedy/drama and music in SRH education campaigns not only caters to these preferences but also enhances message retention.

The study also highlights parental concerns and preferences regarding their children's social media use for SRH education. Engaging parents in educational initiatives and providing guidance on safe internet practices can enhance the effectiveness of these campaigns. Studies focusing on safe internet practices often highlight the importance of parental guidance and education in mitigating

risks associated with online activities (Livingstone et al., 2011; O'Keeffe & Clarke-Pearson, 2011). The WHO recommends that educational programs should engage parents in discussing sensitive topics and support them in guiding children's access to accurate and age-appropriate information on SRH (WHO, 2018).

Several pivotal themes emerged regarding the usage of social media, content modalities, challenges as well as prospects for digitalizing sexuality education through in-depth interviews with 15 purposively sampled stakeholders across different sectors inclusive of healthcare providers, educators, donors, ARN members, and government representatives.

The widespread use of Facebook and WhatsApp as primary platform for SRHR-related awareness and communication in Liberia emerged as a primary finding of the study. Stakeholders indicated that these platforms were leveraged to not only share messages but at the same time create awareness about products and services as well as promote events and interact with target audience. This finding of the study aligns with the global pattern highlighting the increasing adoption of social media for health education and promotion, especially in resource-constrained settings (Gabarron et al., 2018). The inclination for these platforms is likely fueled by their user-friendliness, accessibility, and popularity among the Liberian population, notably youth.

The types of content shared on these platforms primarily comprised of graphics or pictures accompanied by descriptive text. This approach of combining written explanations with visual elements provides an effective strategy for disseminating SRHR information in a comprehensive and engaging manner. Similarly, informants also indicated the use of cartoons or short videos to share messages, highlighting a diversification of content formats intended to cater to different audience preferences and learning styles. The evolving landscape of digital health communication, where a variety of media formats are used to enhance engagement and information retention is reflected in this multi-modal approach of content formats (E. Todaro et al., 2018).

Nonetheless, the study also revealed substantial challenges confronted by organizations in their pursuit to digitize SRHR education. Notable amongst these challenges was the lack of technical expertise for content creation, especially in developing age-appropriate materials and creating multimedia contents like animations or videos. This demonstrates a dire capacity gap within the SRHR sector in Liberia thus inhibiting the quality and effectiveness of digital education efforts. The need for capacity building in both SRHR knowledge and digital content creation skills emerges as a crucial area for intervention.

The challenges around internet connectivity emerged as another issue consistently cited by participants as a hinderance to SRHR efforts. The posting of content on the internet is inhibited by poor access to the internet, particularly regarding sharing large files like videos contents. Even more so, this challenge is pronounced in rural areas where the accessibility to smartphones is limited, and internet services could potentially worsen existing differences in access to SRHR information. These findings underscore the importance of considering infrastructure limitations when designing digital health interventions in low-resource settings, a challenge noted in similar contexts (Abedin et al., 2017).

Additionally, cultural sensitivities and societal biases about SRHR topics emerge as a huge challenge. Informants recounted experiences of bullying, misunderstanding and resistance when discussing certain SRHR issues such as controversial topic like female genital mutilation (FGM) or issues related to sexual minorities. Organizations are inhibited from freely sharing SRHR content as a result of the extension of resistance to digital sphere where fear for online harassment occurs. The complex interplay societal norms and digital platforms, demonstrating the need for culturally sensitive mechanisms to digital SRHR education is highlighted by these findings (Döring, 2021).

Irrespective of these challenges, participants expressed enthusiasm about the chances of digitizing sexuality education in Liberia. The potential of digital platforms to enhance accessibility to SRHR information, especially for vulnerable populations as well as young people was recognized by stakeholders during the conduct of the study. The ability to offer interactive learning, reach wider audience and provide privacy in accessing sensitize information as well as offer interactive learning experiences were viewed as important advantages of digital approaches. This finding aligns with global research highlighting the effectiveness of digital and social media platforms in increasing knowledge on sensitize topics like sexual health and promoting health behavior (Greene et al., 2010).

The findings of this study resonate with broader literature on the use of digital platforms for health education in developing countries. The preference for popular social media platforms like Facebook and WhatsApp mirrors trends observed in other African countries, where these platforms have been successfully utilized for health promotion and community engagement. The challenges identified, particularly around internet connectivity and content creation capacity, are also consistent with barriers reported in similar contexts, highlighting the need for contextualized approaches to digital health interventions.

The stakeholders' emphasis on the importance of tailoring content to different age groups and considering language barriers aligns with best practices in health communication. It underscores the need for a nuanced approach to digital SRHR education that takes into account the diverse needs and preferences of different population segments in Liberia.

The findings also reveal a tension between the potential of digital platforms to provide private, accessible SRHR information and the societal biases that may inhibit open discussion of these topics online. This tension reflects broader debates in the field of digital health about balancing the benefits of increased information access with the risks of online harassment or privacy breaches, particularly for marginalized groups.

These findings provide crucial insights into the Liberian media landscape and its potential for disseminating comprehensive sexuality education. The identified challenges and opportunities will be instrumental in informing the development of effective digital platforms for SRHR education in Liberia. The results support the initial premise that social media platforms could serve as ideal conduits for providing comprehensive sexuality education to diverse audiences across the country, including key populations and minority groups.

This qualitative assessment offers a nuanced understanding of the complex ecosystem surrounding digital SRHR education in Liberia. It highlights the potential of platforms like Facebook and WhatsApp to reach wide audiences with engaging, multi-modal content. However, it also underscores the need to address significant challenges, including technical capacity gaps, infrastructure limitations, and societal biases. As Liberia moves towards digitizing sexuality education, these findings emphasize the importance of a holistic approach that combines technological solutions with capacity building, cultural sensitivity, and efforts to address broader societal attitudes towards SRHR topics. By leveraging the opportunities and addressing the challenges identified in this study, Liberia can work towards creating more accessible, effective, and inclusive digital platforms for comprehensive sexuality education, ultimately contributing to improved SRHR outcomes for its population.

Conclusion

Digitizing comprehensive sexuality education can reach a wider audience and increase cost efficiency, but there are challenges to implementing it, including pushback from parents and traditional religious communities, internet connectivity emphasizes the need for parents to advocate for this education, and participants stress the importance of evidence-based, digitized curriculum to make it more accessible.

This study offers significant insights into social media usage patterns in Liberia, particularly focusing on the potential for disseminating sexual and reproductive health (SRH) information. The findings underscore that younger people, particularly those aged 18-30, constitute the primary users of social media and show a high tendency for seeking SRH information online. The preference for platforms like Facebook, WhatsApp, and YouTube, along with their engagement with visual content such as images, videos, comedy, and music, highlights diverse opportunities for effective SRH education campaigns.

Moreover, educational background and employment status emerged as critical factors influencing social media use and access to health information. Respondents with higher educational attainment demonstrated greater utilization of social media for health-related purposes, underscoring the need to tailor educational initiatives to different literacy levels. Additionally, unemployment was identified as a barrier to accessing health information, demanding targeted interventions to bridge these gaps.

Parental involvement was identified as essential in shaping children's social media behaviors and enhancing the effectiveness of SRH education campaigns. Engaging parents in educational initiatives and providing guidance on safe internet practices are crucial recommendations stemming from this study.

Recommendations

1. Synchronization of SRHR messages across every region and platform
2. SRHR education should be synchronized across stakeholders, social media platforms and locations
3. SRHR content should represent the local context
4. capacity building for local institutions to digitize CSE using different modalities
5. Tailor SRH education campaigns on popular social media platforms like Facebook, WhatsApp, and YouTube focusing on visually appealing content formats, such as images, videos, comedy, and music.
6. Collaborate with educational institutions to integrate SRH education into curricula
7. Target unemployed individuals to overcome barriers in accessing health information through social media. Offer skills training and advocate for inclusive digital access.
8. Develop programs that engage parents in discussions about SRH and safe internet practices. Emphasize their role in guiding children's online behaviors and ensuring access to reliable SRH information.
9. Advocate for policies that promote digital literacy and safe internet practices in educational and community settings. Collaborate with stakeholders, including health organizations and policymakers, to create supportive environments for SRH education.

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Annex A: Social media posting

Blog	Posting Channel	Posting timetable
Liberian Influence	Facebook, Instagram	January 16 January 28
Watzon TV	WhatsApp	January 16 January 21 January 28 February 4 February 10
Daily Dose	Facebook, TiKTok	January 16 January 21 January 28 February 4