

EFFECT OF FAMILY PLANNING SERVICES ON THE PSYCHOSOCIAL WELL-BEING OF PERSONS WITH HEARING IMPAIRMENT IN BUEA SUB-DIVISION

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Abstract

This study investigated the effect of family planning services on the psychosocial well-being of persons with hearing impairment in Buea Sub-Division, Cameroon. The study adopted a quasi-experimental research design, complemented by qualitative data, involving an experimental group and a control group. Twelve participants were involved in the family planning intervention assessment, with six assigned to each group. Data were collected through pre-test and post-test assessments of psychosocial well-being, complemented by participants' testimonies. Quantitative data were analysed using descriptive statistics and independent-samples t-tests, while qualitative responses were examined thematically. Findings revealed no statistically significant differences in psychosocial well-being between the experimental and control groups at pre-test ($p > .05$). However, following the family planning counselling intervention, participants in the experimental group demonstrated significantly higher psychosocial well-being scores ($M = 135.83$) than those in the control group ($M = 75.67$), with a statistically significant overall difference ($t = 7.608, p < .001$). Significant improvements were observed across all six dimensions of psychosocial well-being, particularly environmental mastery, positive interpersonal relationships, autonomy and self-acceptance. Qualitative findings further revealed improved reproductive health knowledge, increased self-confidence, reduced fear, enhanced communication with partners and greater autonomy in reproductive decision-making. The study concluded that accessible family planning counselling significantly improves the psychosocial well-being of persons with hearing impairment. It recommended integrating disability-inclusive family planning counselling, qualified sign language interpretation and psychosocial support into reproductive healthcare services to promote equitable access, reproductive autonomy and psychological well-being.

Keywords:

Family Planning Services; Psychosocial Well-Being; Hearing Impairment; Reproductive Health Counselling; Quasi-Experimental Design; Buea Municipality.

Résumé

Cette étude a examiné l'effet des services de planification familiale sur le bien-être psychosocial des personnes présentant une déficience auditive dans l'arrondissement de Buéa, au Cameroun. L'étude a adopté un devis de recherche quasi expérimental, complété par des données qualitatives, comprenant un groupe expérimental et un groupe témoin. Douze participants ont pris part à l'évaluation de l'intervention en matière de planification familiale, dont six répartis dans chaque groupe. Les données ont été recueillies au moyen d'évaluations du bien-être psychosocial réalisées avant et après l'intervention (pré-test et post-test), complétées par les



témoignages des participants. Les données quantitatives ont été analysées à l'aide de statistiques descriptives et de tests t de Student pour échantillons indépendants, tandis que les données qualitatives ont fait l'objet d'une analyse thématique. Les résultats ont révélé l'absence de différences statistiquement significatives entre le groupe expérimental et le groupe témoin lors du pré-test ($p > 0,05$). Cependant, à l'issue de l'intervention de conseil en planification familiale, les participants du groupe expérimental ont obtenu des scores de bien-être psychosocial significativement plus élevés ($M = 135,83$) que ceux du groupe témoin ($M = 75,67$), avec une différence globale statistiquement significative ($t = 7,608$; $p < 0,001$). Des améliorations significatives ont été observées dans les six dimensions du bien-être psychosocial, particulièrement en ce qui concerne la maîtrise de l'environnement, les relations interpersonnelles positives, l'autonomie et l'acceptation de soi. Les résultats qualitatifs ont également mis en évidence une amélioration des connaissances en matière de santé reproductive, un renforcement de la confiance en soi, une diminution des craintes, une meilleure communication avec les partenaires ainsi qu'une autonomie accrue dans la prise de décisions relatives à la reproduction. L'étude conclut que les services accessibles de conseil en planification familiale contribuent significativement à l'amélioration du bien-être psychosocial des personnes présentant une déficience auditive. Elle recommande l'intégration de services de conseil en planification familiale inclusifs et adaptés aux personnes en situation de handicap, le recours à des interprètes qualifiés en langue des signes ainsi que la mise en place d'un accompagnement psychosocial au sein des services de santé reproductive, afin de promouvoir un accès équitable aux soins, l'autonomie reproductive et le bien-être psychologique.

Mots-clés : Services de planification familiale ; Bien-être psychosocial; Déficience auditive; Conseil en santé reproductive; Devis quasi expérimental ; Municipalité de Buéa.

Introduction

Access to comprehensive family planning services constitutes a fundamental reproductive health right and an important determinant of psychological and social well-being. Beyond preventing unintended pregnancies and promoting reproductive autonomy, family planning services empower individuals to make informed decisions concerning their reproductive lives, interpersonal relationships and overall quality of life (World Health Organization [WHO], 2019; United Nations Population Fund [UNFPA], 2021). However, persons with hearing impairment frequently encounter communication barriers, discriminatory attitudes and inadequate access to reproductive health information, which may compromise their psychological adjustment, self-confidence and social participation.

Evidence suggests that limited access to sign language interpretation, insufficient disability-inclusive counselling and negative healthcare provider attitudes contribute to the marginalisation of persons with hearing impairment within reproductive healthcare systems (Mprah et al., 2022; Barbosa et al., 2025). These challenges extend beyond reproductive health outcomes to affect important dimensions of psychosocial well-being, including autonomy, environmental mastery, personal growth, positive interpersonal relationships, purpose in life and self-acceptance. Consequently, accessible family planning counselling may constitute an important psychosocial intervention capable of strengthening reproductive decision-making, emotional resilience and social inclusion.

Despite growing international attention to disability-inclusive reproductive healthcare, empirical evidence concerning the psychosocial benefits of family planning counselling among persons with hearing impairment remains limited,

particularly within the Cameroonian context. Existing studies have predominantly examined accessibility challenges, contraceptive knowledge and reproductive healthcare utilisation, with relatively little emphasis on evaluating the effectiveness of structured counselling interventions in improving psychosocial well-being.

Against this background, the present study investigated the effect of family planning services on the psychosocial well-being of persons with hearing impairment in Buea Sub-Division, Cameroon. Specifically, the study examined whether structured family planning counselling significantly improved participants' autonomy, environmental mastery, personal growth, positive relations, purpose in life and self-acceptance. The findings are expected to contribute empirical evidence towards developing inclusive, communication-accessible and psychologically responsive reproductive healthcare interventions for persons with hearing impairment.

Conceptualising Family Planning

Family planning is globally recognized as a central component of sexual and reproductive health and rights, with strong linkages to maternal and child health, gender equality, and socioeconomic development (WHO, 2019; UNFPA, 2021). Conceptually, family planning encompasses services, information, and interventions that enable individuals and couples to determine the timing, spacing, and number of children in a voluntary and informed manner (Cleland et al., 2012). Effective family planning contributes to reduced maternal mortality, improved child survival, and enhanced psychosocial wellbeing by empowering individuals to exercise reproductive autonomy (Glasier et al., 2021).

The United Nations Population Fund (2023) emphasizes that family planning enables individuals to achieve desired fertility outcomes, improves maternal and child health, and fosters socioeconomic development, all grounded in reproductive rights and informed choice. According to Cleland et al. (2006), family planning is a multifaceted public health and social intervention aimed at enabling individuals and couples to anticipate and attain their desired number of children and the spacing and timing of their births. Family planning involves the use of contraceptive methods and the treatment of involuntary infertility. Its conceptual understanding has evolved over decades, reflecting changes in societal values, health priorities, and programmatic approaches (Cleland et al., 2006).

As Rogers (2003) puts it, family planning is conceptualized at both macro and micro levels. At the macro level, it is viewed as a diffusion process involving multiple components: the innovation (contraceptive methods), the setting (social and cultural environment), the diffusion agency (health systems and programs), the strategy employed, the adoption process by users, and systematic feedback mechanisms. This framework highlights the complexity of family planning as not merely a clinical intervention but a social innovation that requires adaptation and acceptance within diverse contexts. Meanwhile at the micro level, family planning is understood as a transactional process involving the potential user and provider, the “gap” between them (which may include barriers such as access, knowledge,

or cultural resistance), and the setting in which this interaction occurs (Shelton, 2001).

Family planning is defined as the ability of individuals and couples to anticipate and attain their desired number of children and the spacing and timing of their births through the use of contraceptive methods and treatment of infertility (WHO, 2019). The conceptual scope of family planning includes contraceptive service delivery, fertility education, counselling, management of side effects, infertility services, and integration with broader reproductive health care (UNFPA, 2021). Beyond biomedical services, family planning is increasingly conceptualized as a rights-based intervention grounded in autonomy, dignity, and informed choice (Starrs et al., 2018).

Regarding the theoretical frameworks informing family planning, we have the health behaviour theories including the Health Belief Model, the Theory of Planned Behavior, and Social Cognitive Theory, which emphasize perceived susceptibility, perceived benefits and barriers, normative beliefs, and self-efficacy as key determinants of contraceptive use (Glanz et al., 2015). In this light, counselling interventions often draw on these frameworks to design effective behavior change strategies (Fishbein & Ajzen, 2010). The rights-based framework emphasizes that access to voluntary family planning is a fundamental human right and a prerequisite for gender equity (UNFPA, 2021; Starrs et al., 2018). In this vein, empowerment-oriented models conceptualize family planning as a tool through which individuals, particularly women, gain control over their reproductive lives, education, and economic participation (Sen & Batliwala, 2000). The life-course framework conceptualizes family planning needs as dynamic across different reproductive stages, including adolescence, postpartum periods, and later reproductive life (WHO, 2019). This model highlights the importance of tailoring services to age-specific and context-specific needs.

There are some Core Conceptual Components of Family Planning, including: **(A).** Information and Counselling: High-quality, unbiased, and culturally sensitive counselling is central to informed choice and sustained contraceptive use (WHO, 2019; Glasier et al., 2021). Counselling includes explanation of methods, side effects, contraindications, and follow-up support. **(B).** Contraceptive Method Mix and Service Quality: Conceptually, access to a broad method mix is essential for rights-based family planning (Starrs et al., 2018). Service quality is defined by technical competence, privacy, respectful care, confidentiality, and continuity of services (WHO, 2019). **(C).** Accessibility and Equity: Accessibility is conceptualized in terms of geographic availability, financial affordability, and sociocultural acceptability (UNFPA, 2021). Equity requires deliberate strategies to reach vulnerable and marginalized populations (Starrs et al., 2018). **(D).** Integration with Other Services: Family planning is conceptually linked with maternal health, HIV/STI services, post-abortion care, and adolescent health services, improving overall continuity of care and health outcomes (WHO, 2019).

When it comes to providing family planning to persons with hearing impairment, accessible communication, including sign language and visual materials, is central to informed decision-making among persons with hearing impairment (WHO,

2020). Equally, providers' understanding of deaf culture and rights-based practice is essential for building trust and improving service utilization (who, 2020). To add, the routine use of family members as interpreters undermines confidentiality and autonomy and contradicts rights-based standards (UNFPA, 2021).

There are several family planning interventions, amongst which: (1). Clinical family planning interventions which according to Bruce (1990) involve facility-based counseling, contraceptive provision, and follow-up services; and expanding method choice and ensuring provider competence are critical elements of quality care. (2). Community-based distribution of contraceptives and mobile outreach models have been successful in extending family planning services to rural and underserved populations (Prata et al., 2017). In this light, trained community health workers play a pivotal role in increasing access and acceptance. (3). Behavior-Change Communication (BCC) and social and behavior change communication (SBCC) strategies, including peer education, mass media campaigns, and interpersonal communication, address myths, stigma, and social norms that hinder contraceptive use (Cleland et al., 2012). (4). Enabling policies such as removing user fees, integrating family planning into universal health coverage, and ensuring continuous supply chains enhance accessibility and sustainability (FP2030, 2022). (5) Technology-enabled approaches with digital innovations like SMS reminders, chatbots, and telehealth counseling have emerged as promising tools to increase knowledge and follow-up adherence, especially among young people (Johnson et al., 2018).

Above all, meta-analyses reveal that high-quality, client-centered counseling improves contraceptive uptake, continuation, and satisfaction (Cavallaro et al., 2020). Integration of family planning with maternal and HIV services yields positive outcomes, particularly in sub-Saharan Africa (Warren et al., 2017). Nonetheless, WHO's (2016) reports that key challenges in family planning include addressing persistent unmet need, overcoming sociocultural barriers, ensuring method choice and quality of care, and engaging men and communities in reproductive health decisions. Emerging issues such as the impact of infectious diseases (for example, Zika virus) on family planning demand renewed attention and cohesive efforts to maintain contraceptive availability and access (WHO, 2016).

Determinants of family planning use span individual knowledge and attitudes, community norms, and sociocultural factors including gender roles and empowerment (Cleland et al., 2006). Programmatically, family planning has evolved from provider-driven models to diverse strategies emphasizing outreach, community engagement, and integration with other health services, with implementation science guiding efforts to improve acceptability, adoption, and sustainability (Fixsen et al., 2005; Shelton, 2001).

For Fixsen et al. (2005), family planning programs have transitioned from clinic-based, provider-driven models to more diverse strategies including outreach, community engagement, and integration with other health services. Implementation science has been increasingly applied to understand how best to deliver family planning interventions in low- and middle-income countries,

focusing on outcomes such as acceptability, adoption, fidelity, and sustainability (Fixsen et al., 2005).

As concerns the level of equity in accessing family planning service, Chandra-Mouli et al. (2014) think that young people often face provider bias, stigma, and lack of privacy, leading to low contraceptive uptake. Additionally, persons with disabilities, including those with hearing impairments encounter communication barriers, inaccessible materials, and provider misconceptions (Panko et al., 2022). Also, gender norms and partner dynamics profoundly influence contraceptive decision-making. In humanitarian emergency settings like in the two English-speaking regions of Cameroon, conflict and displacement generally disrupts access to family planning services, thereby increasing unintended pregnancies. Thus, integrating family planning into humanitarian response ensures continuity of care (Casey et al., 2015).

Factors that Influence the Psychosocial Wellbeing of Persons with Hearing Impairment

Communication is consistently identified as the most critical factor influencing psychosocial wellbeing among persons with hearing impairment. Effective communication underpins access to healthcare, education, employment, and social participation. However, limited proficiency in sign language among health professionals, scarcity of interpreters, and inadequate visual teaching materials often compromise comprehension, confidentiality, and informed choice (Mprah, 2013). These barriers heighten anxiety, reduce trust in providers, and limit understanding of reproductive and social options. Mall and Swartz (2012) argue that the gap between counseling intention and client reception is particularly wide for deaf populations due to structural neglect of communication needs. Empirical studies show that individuals with greater access to sign language interpretation report higher levels of self-esteem, reduced psychological distress, and stronger social integration (Leigh et al., 2018). Thus, communication access is not merely a technical issue but a determinant of psychosocial resilience.

Social connectedness is a powerful predictor of psychosocial wellbeing. Persons with hearing impairment often experience exclusion from mainstream social activities, leading to loneliness and diminished self-worth (Punch & Hyde, 2011). Social isolation is strongly correlated with depression, anxiety, and reduced life satisfaction. Conversely, participation in deaf communities fosters identity formation, belonging, and resilience (Leigh et al., 2018). Theories of social capital suggest that networks of trust and reciprocity buffer against psychosocial stressors, and this applies strongly to deaf populations. Research demonstrates that peer support groups and inclusive environments mitigate risks of isolation, enhance coping strategies, and promote psychosocial wellbeing (Antia et al., 2010). Therefore, the quality and accessibility of social relationships are central determinants of wellbeing.

Stigma remains a pervasive influence on psychosocial wellbeing. Misconceptions about disability and the sexual lives of persons with hearing impairment contribute to internalized stigma, reduced self-esteem, and reluctance to seek health services (Mall & Swartz, 2012). Discrimination in education, healthcare, and employment exacerbates psychosocial distress and reinforces

marginalization. Goffman's (1963) theory of stigma highlights how labeling and stereotyping create social exclusion, which is evident in the experiences of deaf individuals. Empirical evidence shows that stigma is associated with higher rates of depression and lower quality of life among persons with hearing impairment (Cacciatore et al., 2016). Conversely, disability-inclusive policies and awareness campaigns promote dignity, empowerment, and psychosocial resilience (United Nations, 2006). Addressing stigma is therefore both a social justice imperative and a psychosocial intervention.

Education is a critical context for psychosocial development. Placement in mainstream schools without adequate support often increases psychosocial challenges, as students face bullying, exclusion, and communication difficulties (Antia et al., 2010). Such environments foster feelings of inadequacy and social isolation. Conversely, specialized schools or inclusive programs with sign language support provide protective environments that foster psychosocial development. Kritikos and Birnbaum (2003) found that inclusive education enhances self-esteem, academic achievement, and social integration among students with hearing impairment. Theories of inclusive education emphasize that equitable access to communication and participation strengthens psychosocial wellbeing by promoting belonging and competence. Thus, the educational environment is a structural determinant of psychosocial outcomes.

Individual personality traits interact with hearing loss to influence psychosocial wellbeing. Hallberg and Carlsson (1991) found that negative emotionality increases vulnerability to stress, anxiety, and memory complaints, while extraversion can buffer against social isolation. However, severe hearing loss may negate the protective effects of extraversion, leading to heightened psychosocial distress. Emotional regulation strategies, such as problem-focused coping and resilience-building, are therefore essential. Counseling interventions that strengthen coping skills have been shown to mitigate personality-linked risks and promote emotional regulation (Calderon & Greenberg, 2011). This highlights the importance of integrating psychological support into hearing health services.

Early identification of hearing loss and timely interventions such as cochlear implants, hearing aids, and counseling significantly improve psychosocial wellbeing. Early intervention enhances communication skills, reduces stigma, and fosters better social integration (Spencer & Marschark, 2010). Studies show that children and young adults who receive early auditory and educational support demonstrate stronger self-esteem, reduced behavioural challenges, and improved psychosocial outcomes (Calderon & Greenberg, 2011). Delayed diagnosis, by contrast, is associated with poorer language development, social isolation, and long-term psychosocial distress. Thus, early intervention is a critical determinant of wellbeing across the lifespan.

Family support is a protective factor for psychosocial wellbeing. Families that actively engage in communication training and emotional support help reduce behavioral challenges and strengthen resilience (Meadow-Orlans et al., 2004). Parental involvement in early intervention programs improves language development, social skills, and emotional security among children with hearing

impairment. Conversely, lack of family support exacerbates isolation and psychosocial distress. Attachment theory suggests that secure family relationships foster emotional stability and resilience, and this is particularly relevant for deaf children. Empirical evidence confirms that strong parental involvement is associated with better psychosocial outcomes in adulthood (Calderon & Greenberg, 2011).

Untreated hearing loss is directly associated with emotional loneliness, depression, and reduced satisfaction with social support (Cacciatore et al., 2016). Adults with untreated hearing impairment often report higher levels of psychological distress and lower quality of life compared to those who receive timely interventions. The World Health Organization (2020) emphasizes that untreated hearing loss is a major public health issue with profound psychosocial consequences. Accessible hearing healthcare and psychosocial counseling are therefore essential to prevent long-term distress and promote wellbeing. Addressing untreated hearing loss is not only a clinical priority but also a psychosocial intervention.

It is in this light that for Dehlendorf et al. (2017), effective RHC encompasses several core components: sharing accurate information, clarifying values, providing psychosocial support, developing skills, and facilitating referrals. Client-centered and shared decision-making approaches are widely advocated because they honor individual preferences and reduce provider bias (Guttmacher Institute, 2023). Trauma-informed and culturally sensitive counseling strategies are particularly important for vulnerable populations, including adolescents, displaced persons, and survivors of gender-based violence (Logie et al., 2021). Internationally, educational models focus on knowledge transfer, while motivational interviewing techniques aim to resolve ambivalence and promote behavior change (Patton et al., 2018; Rollnick & Miller, 2019).

Meanwhile, Cavallaro et al., (2020) bring in other models of reproductive health counseling, including routine clinical counseling, structured or enhanced counseling models, motivational interviewing, and community-based or peer-led counseling. Hardee et al. (2014) assert that multi-session, personalized counseling with follow-up tends to yield higher satisfaction and better reproductive outcomes for the clients. It is in this light that Cavallaro et al. (2020) found that structured contraceptive counseling improves clients' knowledge, continuation rates, and satisfaction. Likewise, Johnson et al. (2018) observed that integrating counseling with immediate access to reproductive services increases contraceptive uptake and adherence. Nonetheless, the effects vary depending on cultural context, counselor training, and service quality.

The World Health Organization (2021) emphasizes that the scope of RHC is broad and multifaceted. It includes contraceptive counseling and method provision, preconception and inter-conception guidance, fertility and infertility counseling, STI/HIV prevention and treatment counseling, pregnancy-related support (both antenatal and postnatal), and psychosocial care for pregnancy loss and infertility (Peterson, 2012). Person-centered contraceptive counseling, which addresses attributes client's value such as effectiveness, side effects, convenience, and

reversibility and incorporates interactive techniques like teach-back, has been shown to improve satisfaction and increase continuation rates. When combined with youth-friendly services and easy access to contraception, counseling interventions further enhance knowledge and uptake (Dehlendorf et al., 2016; Salam et al., 2016).

Modern reproductive health policies underscore the necessity of integrating RHC within broader sexual and reproductive health and rights (SRHR) frameworks. This integration mandates that counseling be delivered with strict attention to confidentiality, voluntariness, and non-discrimination, reflecting a rights-based and client-centered ethos that prioritizes autonomy, dignity, and informed choice (Centers for Disease Control and Prevention [CDC], 2024; United Nations Population Fund [UNFPA], 2021; WHO, 2021). Above all, RHC is delivered across diverse settings, including maternal health clinics, family planning centers, schools, humanitarian contexts, and increasingly through digital platforms. The advent of mobile health (mHealth) technologies such as SMS reminders, tele-counseling, and virtual follow-ups has notably expanded access to reproductive counseling, especially in low-resource or conflict-affected environments (Smith et al., 2022; WHO, 2022).

Biggs et al., (2023) posit that persons with disabilities, especially those with hearing impairments face numerous barriers in accessing reproductive health counseling. These barriers include communication difficulties, limited availability of sign language interpreters, and lack of disability-inclusive information materials. Groce et al. (2018) indicate that deaf women often experience reduced autonomy in reproductive decisions due to inadequate counseling and stigma within healthcare systems. Above all, WHO (2021) upholds that inclusive counseling practices, such as visual aids, interpreter confidentiality, and accessible education, are essential to ensure equity within communities. Within the framework of this dissertation, reproductive health counselling focused on family planning, maternal health, reproductive education, and STI prevention and management, and their effects the psychosocial wellbeing of persons with hearing impairment in English-speaking

Reproductive health counseling contributes to several positive outcomes including improved reproductive health literacy and informed decision-making (UNFPA, 2021); reduced anxiety, confusion, and psychosocial distress associated with reproductive choices (APA, 2020); greater uptake and correct use of contraception, reducing unintended pregnancies (Glasier et al., 2021); enhanced self-efficacy and autonomy in navigating reproductive health challenges (WHO, 2019); and improved relationship communication and negotiation skills (Miller & Rose, 2018); and most specifically for persons with hearing impairment, reproductive health counseling plays an additional role in addressing communication barriers and misinformation that contribute to poor SRH outcomes and reduced psychosocial wellbeing.

When counseling is respectful and grounded in shared decision-making, it significantly improves contraceptive uptake and continuation. It also positively influences engagement in antenatal and postnatal care, enhances STI prevention efforts, and reduces unintended pregnancies. Beyond clinical outcomes, reproductive counseling strengthens self-efficacy, reduces anxiety and stigma,

and fosters a greater sense of control over reproductive choices, thereby enhancing overall psychosocial wellbeing (Dehlendorf et al., 2019; Eliason & Baiden, 2021; Guttmacher Institute, 2023; Logie et al., 2021; Starling et al., 2020).

Therefore, the conceptual link between reproductive health counseling and psychosocial wellbeing lies in the counselling process itself. Through supportive dialogue, clients gain emotional relief, clarity, and a sense of control factors associated with psychological stability and wellbeing (APA, 2020). Mental health professionals with specialized training in fertility issues contribute significantly to improved coping and decision satisfaction (Peterson, 2012). Similarly, effective counseling for STI/HIV integrates comprehensive risk assessment, partner notification strategies, prevention counseling (including condom use and PrEP where appropriate), and linkage to testing and treatment services. The success of such counseling is heightened when stigma and confidentiality concerns are actively addressed (WHO, 2021). Counseling also reduces stress related to reproductive uncertainty, interpersonal conflict, stigma, or fear (Miller & Rollnick, 2013). For persons with hearing impairment, accessible reproductive health counseling can mitigate loneliness, exclusion, and misinformation, thereby promoting self-worth and emotional resilience (WHO, 2020).

Hearing Impairment

Hameed et al. (2020) conducted a study titled Interventions to Promote Sexual and Reproductive Health and Rights (SRHR) for Persons with Disabilities in Low- and Middle-Income Countries. The objective of the study was to assess interventions that promote SRHR among persons with disabilities in these settings. The researchers employed a systematic review design, focusing on a population represented through qualitative, quantitative, or mixed-method observational studies published between 2010 and 2019. The instruments for data collection included comprehensive database searches across MEDLINE, Embase, PubMed, Global Health, and CINAHL Plus, with search strings compiled for various SRHR elements and disability types. The method of data analysis was narrative synthesis, which is particularly suited for heterogeneous studies, and the team also applied the Levesque healthcare access model to analyze intervention focus.

The findings revealed that out of 24,919 records screened, 380 papers were relevant, with 33 full-text articles assessed and 18 included in the synthesis. Among the 16 interventions identified, 25% had low risk of bias, 31% moderate, and 44% high risk. Most interventions (15 out of 16) focused on information provision and awareness raising, with intellectual, visual, hearing, mental health, and physical impairments addressed. However, no intervention promoted access to maternal health, family planning, contraception, or safe abortion for people with disabilities. Based on these results, the authors recommended greater emphasis on inclusive interventions that go beyond awareness to address practical access to SRHR services. The research gap in relation to the present study lies in the absence of interventions that specifically examine the effect of reproductive health counseling on the psychosocial wellbeing of students with hearing impairment, particularly within the Cameroonian context. While Hameed et al. highlighted general SRHR barriers and interventions, they did not explore

counseling-based approaches or their impact on psychosocial outcomes among young adults with hearing impairment in low-resource educational settings

Casebolt (2020) carried out a study titled *Access to Reproductive Health Services for Women with Disabilities in Low- and Middle-Income Countries*. The objective was to determine the existing evidence regarding access to reproductive health services for women with disabilities. The study employed a systematic review design, focusing on a population of women with disabilities across Africa and Asia. The instrument for data collection was database searches in PubMed, Web of Science, and EBSCOHost Global Health. The method of data analysis was thematic extraction using Levesque's Model of Healthcare Access. The findings revealed barriers such as negative provider attitudes, lack of trained providers, communication limitations, inaccessible facilities, high costs, and unnecessary referrals. The recommendations emphasized the need to address provider attitudes, improve accessibility, and reduce financial barriers. The research gap in relation to the present study lies in the design of the study as the present study is a quasi-experimental and it is also focused on students with hearing impairment, particularly in Cameroon, with its own cultural and educational contexts.

Rade et al. (2023) conducted a study titled *Uptake of Sexual and Reproductive Health Services Among Women with Disabilities in Central Gondar Zone*. The objective was to identify predictors of SRH service utilization. The study used a community-based cross-sectional design, with a population of 535 reproductive-age women with disabilities. Data were collected using a structured questionnaire, and analyzed through binary logistic regression. The findings showed that only 33.27% of women used at least one SRH service in the preceding year. Predictors included autonomy to visit facilities, family discussions, media exposure, and living with a sexual partner. The recommendations emphasized empowering women with disabilities through autonomy, family support, and access to information. The research gap in relation to the present study is the fact that the formal study used a community-based cross-sectional design, with a population of 535 reproductive-age women with disabilities while the present study is an experimental study

Matin et al. (2021) carried out a study titled *Barriers in Access to Healthcare Services for Women with Disabilities*. The objective was to identify sociocultural, financial, and structural barriers globally. The study employed a systematic review design, with a population of women with physical, sensory, and intellectual disabilities. The instrument for data collection was database searches in PubMed, Web of Science, and Scopus. The method of analysis was thematic synthesis. The findings revealed barriers such as negative attitudes, violence, poverty, unemployment, inaccessible equipment, and lack of insurance coverage. The recommendations included training healthcare providers, respecting preferences, and promoting advocacy. The research gap in relation to this study is the absence of research examining how reproductive health counseling can mitigate psychosocial challenges faced by students with hearing impairment in Cameroon.

Mprah et al. (2022) conducted a study titled *Satisfaction and SRH Needs of Deaf Persons in Ghana*. The objective was to assess satisfaction levels and unmet SRH

needs. The study used a sequential explanatory mixed-method design, with a population of 288 deaf persons surveyed and 60 interviewed. The instrument for data collection included questionnaires and semi-structured interviews. The method of analysis involved statistical computations and thematic analysis. The findings showed dissatisfaction with SRH services due to lack of sign language interpreters and inaccessible information. The recommendations included training health professionals in sign language and improving communication accessibility. The research gap in relation to this study is the limited exploration of counseling interventions that directly target psychosocial wellbeing among students with hearing impairment in Cameroon.

Tannenbaum et al. (2025) conducted a study titled *Communication Barriers between Health Care Workers and Deaf and Hard-of-Hearing Patients*. The objective was to identify communication barriers in healthcare settings. The study employed mixed methods, with a population of 288 DHH participants and 391 healthcare workers. The instrument for data collection included surveys and interviews. The method of analysis combined quantitative and qualitative approaches. The findings revealed that communication difficulties were widespread, especially in emergency rooms, and that healthcare providers lacked familiarity with effective communication strategies. The recommendations emphasized training HCWs in communication strategies and improving accessibility. While Tannenbaum et al. (2025) highlighted systemic communication barriers between healthcare providers and DHH patients, the study did not explore counseling as a targeted intervention to strengthen psychosocial wellbeing. This study addresses that gap by focusing on reproductive health counseling as a practical approach to improve psychosocial outcomes among hearing-impaired students in Cameroon, where communication challenges remain a critical obstacle.

Choi et al. (2024) conducted a study titled *Effects of Hearing Loss on Mental Health and Quality of Life in Adults*. The objective was to examine the impact of hearing loss on mental health and QoL. The study used a cross-sectional survey design, with a population of 10,921 adults aged over 40 years. The instrument for data collection was national health survey questionnaires. The method of analysis involved multivariate regression. The findings showed that adults with hearing loss had higher rates of suicidal ideation, lower motor ability, and poorer QoL scores. The recommendations emphasized the need for interventions to address mental health and QoL among hearing-impaired adults. The research gap in relation to the study is the absence of research on younger populations (students aged 18–35) and the role of reproductive health counseling in improving psychosocial wellbeing.

Santos and Portes (2019) conducted a study titled *Perceptions of Deaf Individuals about Communication with Health Professionals in Rio de Janeiro*. The objective was to analyze communication processes between deaf individuals and health professionals. The study used a cross-sectional observational design, with a population of 121 deaf adults. The instrument for data collection was questionnaires with quantitative and qualitative questions. The method of analysis included descriptive statistics, logistic regression, and content analysis.

The findings revealed that lack of interpreters and limited use of sign language were major barriers, while companions and gestures were common strategies. The recommendations included training professionals in sign language and improving communication accessibility. The research gap in relation to the study is that while the formal study used a cross-sectional observational design, with a population of 121 deaf adults, the current study used quasi experimental research design

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Barbosa et al. (2025) conducted a study titled Knowledge and Attitudes about Contraception among Women with Deafness: A Systematic Review. The objective was to assess knowledge and attitudes toward contraceptive methods among women with deafness. The study employed a systematic review design, with a population of 2,641 participants across twelve included articles. The instrument for data collection was database searches registered under PROSPERO (CRD42021277635). The method of analysis was thematic synthesis of findings. The findings revealed low knowledge of contraceptive methods, with withdrawal, condoms, and oral contraceptives being the most familiar, while intrauterine devices and implants were poorly understood. Communication barriers were the most cited obstacles. The recommendations emphasized improving communication accessibility and awareness campaigns. The research gap in relation to the study is the formal study focused only on Contraception among Women with Deafness while the present study looks at family planning in general

Alhusen et al. (2021) conducted a study titled Barriers to Effective Family Planning Services among Women with Disabilities. The objective was to explore perceptions of barriers to family planning services. The study used a qualitative descriptive design, with a population of 31 women with diverse disabilities in the United States. The instrument for data collection was semi-structured interviews. The method of analysis was thematic coding of interview data. The findings revealed barriers such as physical and systemic obstacles, financial limitations, and nonresponsive healthcare providers. The recommendations included targeted interventions, improved provider training, and policy changes. The research gap in relation to this study is the particularity of this study as opposed to the formal study which looks at barriers to effective Family Planning Services among Women with Disabilities in general.

Wu et al. (2021) conducted a study titled Contraceptive Provision and Care Quality among Deaf and Hard-of-Hearing Individuals. The objective was to compare contraceptive provision and care quality between deaf/hard-of-hearing individuals and those without hearing loss. The study used a claims analysis design, with a population of 1,171,838 enrollees aged 15–44 in Massachusetts, including 13,400 deaf or hard-of-hearing individuals. The instrument for data collection was the Massachusetts All-Payer Claims Database. The method of analysis involved regression models adjusted for demographic and health factors. The findings showed that deaf or hard-of-hearing individuals were less likely to receive prescription contraception compared to others, though provision of LARC and permanent contraception did not differ. The recommendations emphasized

examining underlying factors and improving equitable access. The research gap in relation to this study is that this study was carried out in a different context from that of hearing impairment in Cameroon.

Agbenyeavu et al. (2025) conducted a study titled Awareness and Barriers to SRH Services among Deaf Women in Krachi West District, Ghana. The objective was to explore awareness and barriers to SRH services. The study used a descriptive qualitative design, with a population of 13 Deaf women aged 15–49. The instrument for data collection was in-depth interviews. The method of analysis was thematic content analysis using NVivo software. The findings revealed awareness of SRH services but limited utilization due to financial constraints, communication difficulties, stigma, and negative provider attitudes. The recommendations included reorienting health systems, public education, and sensitization. The research gap in relation to this study is that the former study was on awareness and Barriers to SRH Services among Deaf Women in Krachi West District, Ghana while this study is in Cameroon

Chowdhury et al. (2025) conducted a study titled Prevalence and Determinants of Modern Contraception Use among Persons with Disabilities in Low- and Middle-Income Countries. The objective was to estimate prevalence and determinants of modern contraception use. The study employed a systematic review and meta-analysis design, with a population of persons with disabilities across 18 studies. The instrument for data collection was database searches across six platforms. The method of analysis was meta-analysis using fixed and random effects models. The findings showed a pooled prevalence of 31.4% for modern contraception use, with higher use associated with age, education, wealth, knowledge, and marital status. The recommendations emphasized targeted interventions to improve access. The research gap in relation to this study is that the formal study did not focus on counselling-based interventions that address psychosocial wellbeing among students with hearing impairment

THEORETICAL FRAMEWORK

The Communication Access Theory, by Robert Q. Pollard (2000s)

The Communication Access Theory (CAT), proposed by Robert Q. Pollard in the early 2000s, provides a comprehensive framework for understanding how communication barriers influence access to services, participation, and overall wellbeing, particularly among persons who are deaf or hard of hearing. Pollard's model emerged from his extensive work in deaf mental health and healthcare accessibility, where he observed that most challenges faced by deaf individuals were not merely due to hearing loss itself, but rather to systemic failures in communication access (Pollard, 2002; Pollard & Dean, 2003). The theory thus emphasizes that communication is a fundamental aspect of human functioning and that communication access is a form of social access that determines the quality of one's interaction with healthcare, education, and social systems.

At the core of the Communication Access Theory is the assertion that true accessibility extends beyond physical access it includes the capacity to exchange information effectively and meaningfully in all contexts (Pollard, 2011).

Communication access, therefore, involves linguistic, cognitive, psychological, and environmental components, encompassing both the individual's communication skills and the responsiveness of the environment or service provider. The theory identifies two critical dimensions of communication access: (1) the individual's ability to express and comprehend information, and (2) the communication support structures that enable equitable participation, such as qualified sign language interpreters, captioning, visual aids, and staff trained in deaf awareness (Iezzoni et al., 2004).

Pollard (2002) further argues that when communication access is limited or absent, it leads to information deprivation, exclusion, miscommunication, and compromised decision-making. In healthcare settings, this can result in misdiagnosis, poor adherence to treatment, and dissatisfaction with services. Consequently, CAT highlights that ensuring communication access is both an ethical and practical necessity for effective service delivery. It redefines accessibility from a rights-based perspective, positioning communication not as an optional accommodation but as a core determinant of health equity (Pollard, 2011; Emond et al., 2015).

The Communication Access Theory also aligns closely with social and ecological models of disability, emphasizing that barriers to communication are not intrinsic to individuals with hearing loss but are created by environmental, institutional, and attitudinal factors. Therefore, improving communication access requires structural interventions such as policy reforms, staff training, and inclusive service design that promote equitable participation for deaf and hard-of-hearing individuals (Harmer, 2010). Through this lens, CAT extends beyond clinical contexts to inform practices in education, law, and public health, promoting inclusivity and informed consent as cornerstones of professional ethics.

Overall, Pollard's Communication Access Theory provides a vital conceptual framework for examining the intersection between language, accessibility, and social justice. It emphasizes that communication access is a prerequisite for meaningful engagement, autonomy, and wellbeing across all life domains. In doing so, it challenges professionals and institutions to reimagine accessibility not as compliance but as a commitment to equity and human dignity.

However, a primary critique of the theory concerns its limited empirical foundation. Although the model is conceptually robust, there is relatively little systematic research validating its constructs or measuring the impact of communication access interventions on health outcomes (Iezzoni et al., 2004; Emond et al., 2015). Much of the evidence supporting CAT remains qualitative or anecdotal, often derived from small-scale or context-specific studies within Western healthcare settings. This limits the generalizability of the theory, especially to low- and middle-income countries where deaf populations face compounded socio-economic, linguistic, and infrastructural challenges.

Another limitation lies in the theory's contextual narrowness. While CAT effectively addresses healthcare and psychological service contexts, it provides limited guidance for cross-cultural or multilingual environments. In regions such

as sub-Saharan Africa, where sign languages, literacy levels, and healthcare systems vary widely, the model's practical application requires significant contextual adaptation (Ajuwon et al., 2014). Furthermore, CAT assumes a level of institutional readiness such as availability of interpreters, trained staff, and technological support that may not exist in resource-constrained settings, thereby reducing its feasibility in practice.

Critics have also noted that the theory tends to underemphasize interpersonal dynamics and power relations between service providers and clients. While it identifies the need for communication equity, it does not sufficiently explore how cultural attitudes, stigma, and hierarchical medical systems influence communication behaviors and decision-making (Steinberg et al., 2006). Consequently, CAT may appear technocratic, focusing on tools and structures of access without adequately addressing emotional, relational, and ethical complexities inherent in human communication.

In addition, the model could be strengthened by integrating insights from intersectional and psychosocial theories, recognizing that communication barriers interact with other factors such as gender, poverty, and education to shape access and wellbeing. A more integrated approach would allow the theory to address multi-dimensional disparities experienced by deaf individuals, particularly in sensitive areas like reproductive health counseling and mental wellbeing (WHO, 2021).

The CAT is highly relevant to reproductive health counseling and the wellbeing of persons with hearing impairment as it highlights the necessity of accessible health information and provider training, addressing a critical gap in effective engagement with hearing-impaired individuals. Pollard (2002, 2011) argues that without adequate communication access, individuals with hearing impairment are excluded from meaningful participation in health decision-making, which leads to misinformation, reduced autonomy, and psychosocial distress. In reproductive health contexts, this exclusion may manifest as poor understanding of contraceptive choices, inadequate maternal health outcomes, and unaddressed emotional concerns (Iezzoni et al., 2004; Steinberg et al., 2006).

CAT stresses that communication access goes beyond the presence of interpreters to encompass the creation of inclusive environments that facilitate understanding through visual aids, sign language, captioned materials, and culturally competent counseling practices (Pollard & Dean, 2003). It calls for both individual competence and institutional responsibility in ensuring communication equity. When applied to reproductive health counseling, this theoretical perspective promotes inclusive service delivery that removes linguistic and attitudinal barriers.

Furthermore, the theory links communication access to psychological wellbeing, as barriers often lead to frustration, stigma, and isolation (Harmer, 2010). By enhancing communication accessibility, counselors can build emotional trust, empower clients, and improve therapeutic relationships (Emond et al., 2015). From a policy standpoint, CAT aligns with the WHO's (2021) advocacy for

disability-inclusive healthcare, emphasizing communication access as a matter of human rights, social justice, and universal health coverage.

Statement of the Problem

Access to family planning services is essential for promoting reproductive autonomy, informed decision-making and psychosocial well-being. However, persons with hearing impairment continue to experience significant challenges in accessing reproductive healthcare services due to communication barriers, inadequate sign language interpretation, discriminatory attitudes and limited availability of disability-inclusive reproductive health information. These challenges may undermine their autonomy, self-confidence, interpersonal relationships and psychological adjustment, thereby compromising their overall psychosocial well-being.

In Cameroon, particularly within Buea Sub-Division, reproductive healthcare services are not always adequately adapted to the communication and psychosocial needs of persons with hearing impairment. Consequently, many individuals may experience reproductive health misinformation, emotional distress, social exclusion and difficulties making informed reproductive decisions. Although existing studies have examined barriers to reproductive healthcare access among persons with disabilities, limited empirical attention has been devoted to determining whether structured family planning counselling interventions can significantly improve the psychosocial well-being of persons with hearing impairment.

The central problem addressed in this study was therefore the insufficient empirical evidence concerning the effectiveness of family planning counselling in improving psychosocial well-being among persons with hearing impairment in Buea Sub-Division. Specifically, it remained unclear whether accessible family planning counselling could significantly enhance autonomy, environmental mastery, personal growth, positive interpersonal relationships, purpose in life and self-acceptance among this population. Addressing this knowledge gap is essential for informing disability-inclusive reproductive healthcare policies and developing psychosocial interventions responsive to the needs of persons with hearing impairment.

Research Objective

The main objective of this study was to examine the effect of family planning services on the psychosocial well-being of persons with hearing impairment in Buea Sub-Division, Cameroon. Specifically, the study sought to determine whether structured family planning counselling significantly improved participants' autonomy, environmental mastery, personal growth, positive interpersonal relationships, purpose in life and self-acceptance by comparing their psychosocial well-being scores before and after the intervention.

Research Question

To what extent do family planning services influence the psychosocial well-being of persons with hearing impairment in Buea Sub-Division, Cameroon?

Research Hypothesis

Null Hypothesis (H_0): Family planning services have no statistically significant effect on the psychosocial well-being of persons with hearing impairment in Buea Sub-Division, Cameroon.

Alternative Hypothesis (H_1): Family planning services have a statistically significant effect on the psychosocial well-being of persons with hearing impairment in Buea Sub-Division, Cameroon.

METHODOLOGY

Research Design

To better examine the effect of reproductive health counseling on the psychosocial wellbeing of persons with hearing impairment in the Buea Municipality, the quasi-experimental research design was chosen for the study. This design was chosen over the true experimental research design because it is social science research in which the study participants are humans who cannot be totally control without any extraneous influence from their environment. More so, the participants are not completely the same in their psychosocial wellbeing.

To ensure robustness of the study, qualitative dimensions were added to the study design. In other words, qualitative data were collected and combine with the quantitative data for adequate exploration of the study and to know the experiences of the persons with hearing impairment before and after counselling. Thus, a triangulation approach was used by integrating data from two sources or instruments for more reliable and valid findings.

Population of the Study

The population of this study consisted of persons with hearing impairment in the Buea Municipality. Statistics gathered from preliminary field work revealed that in the school for the Deaf in Buea created in 2003, there were 123 learners. Out of the 123 learners, 83 were primary school pupil, 29 were secondary school students, and 11 were in the vocational section. In addition to the school for the Deaf, there is equally an association for the Deaf that has non-school members. In the Association for the Deaf, they are 48 members. In total, the study parent population comprises 171 persons with hearing impairment. This is presented on the table 1 below.

Table 1

Population of the Study

Section	Primary	Secondary	Vocational section	Total
School for the deaf	83	29	11	123
Association for the deaf	-	-	-	48
Total				171

Source: School for the Deaf and Association for the Deaf 2026

Target Population of the Study

the target population comprised persons with hearing impairment aged 18 years and above to young adults of reproductive age who have concerns about reproductive health. The target population was determined using two standardized scale. The scale used was the Sexual and Reproductive Empowerment Scale for Adolescents and Young Adults (AYA) supported with Reproductive Health Preventive Attitude Scale.

The choice of the scale was because many researchers and organizations like WHO have validated scale to measure concerns about sexual and reproductive for meaningful counselling to commence. The scale was used to first understand how persons with hearing impairment perceive their agency, control, and ability to make informed decisions about their sexual and reproductive life. More so, another reason for using the scale to select target participants for the study was because the scale captures all four specific research objectives (Family planning services,). The modified scale has a total of 26 items with a total score of 104. Therefore, only persons with hearing impairment with a score of 52 and below were chosen as the target population of the study. Table 2 below presents the targeted number of persons.

Table 2
Target Population of the Study

Section	General population	Targeted for diagnostic test	Number of persons with low score for Sexual and Reproductive Empowerment Scale for Adolescents and Young Adults (AYA) supported with Reproductive Health Preventive Attitude Scale.
School for the deaf	123	17	12
Association for the deaf	48	48	45
Total	171	65	57

Source: Researcher' Diagnosis 2026

Table 2 showed that out of the total of 171 persons with hearing impairment, all those in primary school were eliminated because they were below 18 years including 20 in secondary school. Thus, 65 were diagnosed and 57 constituted the target population of the study due to their low score for sexual and reproductive empowerment scale. Below is the demographic data of the 57 targeted persons who score low in sexual and reproductive empowerment scale.

FINDINGS

Research Question One: What is the effect of family planning services on the psychosocial well-being of persons with hearing impairment in Buea Municipality?

Table 3
Pre-test Score of the 12 Participants before Counselling on Family Planning Services

Group	Pretest level	Autonomy	Environmental Mastery	Personal Growth	Positive Relation	Purpose in Life	Self-Acceptance	Overall score
Control (N=6)	Mean	11.50	10.50	12.83	12.83	13.17	12.17	73.00
	Median	11.50	9.50	12.00	11.50	12.50	12.00	68.00
	Minimum	9.0	8.0	8.0	9.0	10.0	9.0	59.0
	Maximum	14.0	14.0	20.0	21.0	18.0	15.0	101.0
	Std. Error of Mean	.847	.992	1.851	1.815	1.195	.910	6.132
	Std. Deviation	2.074	2.429	4.535	4.446	2.927	2.229	15.020
Experimental (N=6)	Mean	11.17	10.17	10.67	12.50	14.17	11.17	69.83
	Median	11.00	9.50	10.00	13.00	14.00	10.50	67.00
	Minimum	9.0	8.0	8.0	9.0	10.0	9.0	60.0
	Maximum	13.0	13.0	15.0	16.0	19.0	16.0	88.0
	Std. Error of Mean	.703	.792	1.054	.957	1.195	1.078	3.995
	Std. Deviation	1.722	1.941	2.582	2.345	2.927	2.639	9.786

- Independent Sample T-test respectively (T= 0.303, p=0.768; T= 0.263, p=0.798; T= 1.017, p=0.333; T= 0.162, p=0.874; T= 0.592, p=0.567; T= 0.709, p=0.494; T= 0.433, p=0.674)
- Individual component mean differences by group ranged from 0.33 to 2.17 and overall mean difference is 3.17 between groups

Before counselling on family planning services, the control group had mean scores of 11.50 ± 0.847 for autonomy, 10.50 ± 0.992 for environmental mastery, 12.83 ± 1.815 for personal growth, 12.83 ± 1.815 for positive relations, 13.17 ± 1.195 for purpose in life, 12.17 ± 0.910 for self-acceptance, and 73.00 ± 6.132 for overall. The overall median score was 68.0, minimum overall 59 and maximum overall 101.

The experimental group recorded similar 11.17 ± 0.703 for autonomy, 10.17 ± 0.792 for environmental mastery, 10.67 ± 1.054 for personal growth, 12.50 ± 0.957 for positive relation, 14.17 ± 1.195 for purpose in life, 11.17 ± 1.078 for self-acceptance, and 69.83 ± 3.995 for overall respectively. The overall median score was 67, minimum overall 60 and maximum overall 88.

The independent-samples tests were non-significant across all components and the overall score (all $p > .05$). Thus, indicating that there was no statistically significant difference between the groups, supporting comparability before counselling, although participants in the control group were slightly above those in the experimental group. In other words, participants in the control and experimental group were similar in their psychosocial wellbeing score at pretest level.

Table 4

Post-test Score After Family Planning Services Counselling of Participants in the Experimental Group Only

Group	Post-test level	Autonomy	Environmental Mastery	Personal Growth	Positive Relation	Purpose in Life	Self-Acceptance	Overall score
Control (N=6)	Mean	11.83	11.33	13.33	13.33	13.50	12.33	75.67
	Median	12.00	11.00	12.00	12.50	12.50	13.00	72.50
	Minimum	10.0	9.0	10.0	9.0	11.0	9.0	61.0
	Maximum	14.0	14.0	20.0	21.0	18.0	14.0	100.0
	Std. Error of Mean	.703	.803	1.626	1.726	1.057	.715	5.426
	Std. Deviation	1.722	1.966	3.983	4.227	2.588	1.752	13.292
Experimental (N=6)	Mean	20.67	23.67	22.67	24.33	22.33	22.17	135.83
	Median	21.00	25.00	22.50	25.50	22.50	23.00	139.50
	Minimum	15.0	18.0	20.0	18.0	17.0	20.0	108.0
	Maximum	25.0	28.0	26.0	27.0	26.0	24.0	148.0
	Std. Error of Mean	1.333	1.706	1.020	1.453	1.308	.703	5.753
	Std. Deviation	3.266	4.179	2.533	3.559	3.204	1.722	14.091

At post-test level, after family planning counselling of participants in the experimental group only, they recorded markedly higher means than the control group who were not counselled across every component. Autonomy was 20.67 ± 1.333 versus 11.83 ± 0.703 ; environmental mastery 23.67 ± 1.706 versus 11.33 ± 0.803 ; personal growth 22.67 ± 1.020 versus 13.33 ± 1.626 ; positive relations 24.33 ± 1.453 versus 13.33 ± 1.726 ; purpose in life 22.33 ± 1.308 versus 13.50 ± 1.057 ; and self-acceptance 22.17 ± 1.722 versus 12.33 ± 0.715 . The overall mean was 135.83 ± 5.753 in the experimental group compared with 75.67 ± 5.426 in the control group. The largest component difference was environmental mastery (12.34 points), followed by positive relations (11.00 points), while the overall difference was 60.16 points. The pattern demonstrates a broad improvement in psychosocial functioning following family planning counselling on participants in the experimental group.

Testing of Hypothesis One

H₀₁: Family planning services have no significant effect on the psychosocial well-being of persons with hearing impairment in Buea Municipality.

H_{a1}: Family planning services have a significant effect on the psychosocial well-being of persons with hearing impairment in Buea Municipality.

Table 5
Psychosocial Wellbeing Variation after Family Planning Services Intervention on the Experimental Group Only (Post-test)

Psychosocial wellbeing components	Group	Mean	Std. Deviation	Std. Error Mean	Independent Sample T-test
Autonomy	Control	11.83	1.7224	.7032	T=5.860 Mean difference= 8.83 p<0.001
	Experimental	20.67	3.2660	1.3333	
Environmental Mastery	Control	11.33	1.9664	.8028	T=6.541 Mean difference= 12.33 p<0.001
	Experimental	23.67	4.1793	1.7062	
Personal Growth	Control	13.33	3.9833	1.6262	T=4.859 Mean difference= 9.33 p=0.001
	Experimental	22.67	2.5033	1.0220	
Positive Relation	Control	13.33	4.2269	1.7256	T=4.876 Mean difference= 11.00 p=0.001
	Experimental	24.33	3.5590	1.4530	
Purpose in Life	Control	13.50	2.5884	1.0567	T=5.253 Mean difference= 8.83 p<0.001
	Experimental	22.33	3.2042	1.3081	
Self-Acceptance	Control	12.33	1.7512	.7149	T=59.806 Mean difference= 9.84 p<0.001
	Experimental	22.17	1.7224	.7032	
Overall psychosocial wellbeing score	Control	75.67	13.2916	5.4263	T=7.608 Mean difference= 60.17 p<0.001
	Experimental	135.83	14.0914	5.7528	

Equal variance not assumed, df=10, ci 95%

Inferentially, results showed that all post-test comparisons were statistically significant, with participants in the experimental group significantly improve in their psychosocial wellbeing whereas participants in the control group were almost same (no improvement). Autonomy, $t = 5.860$, $p < .001$ mean 20.67 ± 1.333 versus 11.83 ± 0.703 ; environmental mastery, $t = 6.541$, $p < .001$, mean 23.67 ± 1.706 versus 11.33 ± 0.803 ; personal growth, $t = 4.859$, $p = .001$, mean 22.67 ± 1.020 versus 13.33 ± 1.626 ; positive relations, $t = 4.876$, $p = .001$, mean 24.33 ± 1.453 versus 13.33 ± 1.726 ; purpose in life, $t = 5.253$, $p < .001$, mean 22.33 ± 1.308 versus 13.50 ± 1.057 ; self-acceptance, $t = 59.806$, $p < .001$, mean 22.17 ± 1.722 versus 12.33 ± 0.715 and overall differences $t = 7.608$, $p < .001$; mean 135.83 ± 5.753 versus 75.67 ± 5.426 .

Therefore, family planning counselling services had a statistically significant positive effect on psychosocial wellbeing, with gains strongly evident across every measured dimension. This implies that family planning counselling should be considered not only a reproductive health intervention but also a potential psychosocial support strategy. Thus, the null hypothesis was rejected and the alternative hypothesis that states family planning services have a significant effect on the psychosocial well-being of persons with hearing impairment in Buea Municipality accepted.

Table 6
Participants Opinion on Family Planning Services and Implication on their Psychosocial Wellbeing

Questions	Themes	Quotations
Can you describe your experience with the family planning services you received during the intervention (counselling)	Better pregnancy care	“Pregnancy care, delivery, post-natal care, and new born care. I learn how to ensure safe pregnancy, child birth, I understand pregnancy danger signs.” (P 1) “How to manage pregnancy” (P 2) “How to care better during pregnancy. I saw the medical doctor who work so much to explain the different family methods. I understand because the sign language expert was interpreting. So, I learned better how to manage pregnancy.” (P 3)
	Elated	“I was very happy because it was my first time to learn about family planning and there was a medical doctor and sign language interpreter. There were clients having family planning method drawn on it and also presented physically.” (P 4) “I was happy because I understood everything thanks to the medical doctor and sign language interpreter present. I now feel free to ask questions and have gain knowledge on different family planning methods.” (P 5)
	Use of contraceptives	“Use of male and female condoms to protect oneself from unwanted pregnancy.” (P 2)
How has the information on family planning influenced your confidence in making reproductive health decisions now? Is there a change or no change in your confidence?	Improve communication and reduce fear	“Better communication” (P 2) “I am so confident of myself. I cannot look down on myself anymore. I have confidence to seek help and health services when I feel is needed. I can now openly discuss health problems with my partner or with the doctor.” (P 3) “I can now discuss with my partner without being afraid. We can decide how to space our children and we can choose the family planning we wish.” (P 5)
	Better decision-making	“Better decision-making.” (P 2) “There is a change because I can now make my own decisions without being informed since I now know what that is correct” (P 4)
	Improve autonomy	“More confidence and control” (P 3)
If you were married, how would you communicate now to your spouse after this counselling on family planning services?	Openness and improved decision-making	“I will be honest to him and calmly we will make decisions together. We will care and support each other if any problem arises. I will not hide anything from my partner.” (P 3) “I will tell my spouse that we go to the hospital. I will confidently and calmly talk with my spouse on the advantages of family planning and will convince my spouse that we carryout family planning without fear of home.” (P 4) “We shall have open discussions with no fear about family planning method of our choice and to space our children.” (P 5)
	Confidence about antenatal, feeding, and dressing.	“Confidence to start ANC control as early as possible. Confidence in dressing, what food to eat that are healthy to the body” (P 1)
	Respectful	“Choose a calm time to talk, ask for spouse’s opinion, and discuss goals for the future.” (P 2)

In what ways have the family planning services affected your emotional well-being during the experiment?	Happiness and relational	"I feel happy, joy, excited, loved, valued, and how to relate with others" (P 1)
	Enhance relationship	"Close relationship with spouse" (P 3)
	Stability and reduce fear	"Less stress and worries" (P 2) "It has reduced fear, panic, and increase confidence." (P 4)
	Autonomy	More confidence and control." (P 3)
	Improved self-esteem	"It has improved my self-esteem because my fear has reduced. I feel valued and honoured. I am not scared anymore like before." (P 5)
	Improved confidence	"I feel important and confident. I do not fear making my own decisions anymore." (P 3)

To add more weight or evidence to the quantitative findings, the six participants in the experimental group were invited for a discussion to get a nuanced evidence of their experience after the counselling on family planning services. Testimonies gathered were presented under four questions as seen below.

Description of experience with the family planning services received during the intervention

Here, testimonies were grouped under three themes.

Better pregnancy care: The theme indicates that the counselling strengthened participants' practical understanding of pregnancy management and care. The responses moved beyond a general awareness of pregnancy to specific knowledge of safe pregnancy, childbirth, post-natal care, newborn care and pregnancy danger signs. This suggests that the intervention provided information that participants could connect with concrete stages of maternal care. The response also shows that accessible communication was important to comprehension, since the participant explicitly linked understanding to the presence of a sign language interpreter. *Verbatim evidence: "Pregnancy care, delivery, post-natal care, and new born care. I learn how to ensure safe pregnancy, child birth, I understand pregnancy danger signs. (P 1)"*

Elated: The theme reflects a strong positive emotional reaction to receiving family planning information in an accessible and supportive environment. The happiness expressed by participants appears connected not only to the content of the counselling but also to the novelty of receiving family planning education and to the use of both a medical doctor and sign language interpreter. The physical presentation of family planning methods also appears to have made the learning experience more concrete and understandable.

Verbatim evidence: "I was very happy because it was my first time to learn about family planning and there was a medical doctor and sign language interpreter. There were clients having family planning method drawn on it and also presented physically. (P 4)"

Use of contraceptives: This theme demonstrates that the counselling introduced participants to specific contraceptive practices, particularly condoms, as a means

of preventing unwanted pregnancy. Although the available quotation is brief, it provides direct evidence that the intervention translated family planning information into awareness of a practical protective method. *Verbatim evidence: “Use of male and female condoms to protect oneself from unwanted pregnancy. (P 2)”*

How information on family planning influenced confidence in making reproductive health decisions

Furthermore, family planning was found to influence participant confidence in making reproductive health decisions as explained below.

Improve communication and reduce fear: The theme indicates that increased knowledge was accompanied by greater confidence to communicate about reproductive health. Participants described being less afraid to discuss health concerns with partners and health professionals. This is important because reproductive-health decision-making requires the ability to ask questions, express preferences and seek assistance. The responses therefore suggest that counselling affected both interpersonal communication and the psychological barrier of fear.

Verbatim evidence: “I am so confident of myself. I cannot look down on myself anymore. I have confidence to seek help and health services when I feel is needed. I can now openly discuss health problems with my partner or with the doctor. (P 3)”

Better decision-making: The theme shows that the intervention was perceived as improving participants' capacity to make reproductive-health decisions independently. The responses indicate a shift from uncertainty or dependence on information from others towards making decisions based on acquired knowledge. This suggests that counselling supported informed choice rather than simply transferring information. *Verbatim evidence: “There is a change because I can now make my own decisions without being informed since I now know what that is correct (P 4)”*

Improve autonomy: The theme points to increased personal control and confidence in reproductive-health matters. Autonomy is reflected in the participants' perception that they can exercise greater control over decisions affecting their health. This is particularly significant because the intervention appears to have strengthened confidence alongside knowledge, making participants more willing to take ownership of health decisions. *Verbatim evidence: “More confidence and control” (P 3)”*

How family planning counselling intervention influence participants communication with spouse.

To elucidate, opinion from participants in the experimental group showed that counselling intervention on family planning services helped shaped their communication with spouse as explain below.

Openness and improved decision-making: This theme demonstrate that counselling encouraged participants to envision reproductive-health communication as an open, calm and shared process. Participants referred to honesty, discussion of family-planning advantages, joint decision-making and child spacing. This indicates that the intervention may have strengthened the interpersonal dimension of reproductive-health autonomy by encouraging participants to communicate preferences without fear. *Verbatim evidence:* “I will be honest to him and calmly we will make decisions together. We will care and support each other if any problem arises. I will not hide anything from my partner. (P 3)”

Confidence about antenatal, feeding, and dressing: This theme indicates increased confidence concerning practical maternal-health behaviours, including early antenatal care, healthy nutrition and appropriate preparation. The response suggests that the counselling broadened participants' confidence beyond contraceptive choice to other aspects of pregnancy-related self-care. *Verbatim evidence:* “Confidence to start ANC control as early as possible. Confidence in dressing, what food to eat that are healthy to the body (P 1)”

Respectful: The theme highlights a preference for respectful, calm and participatory communication with a spouse. The response suggests that effective reproductive-health communication should involve listening to the spouse's opinion and jointly discussing future goals. Thus, the counselling appears to have promoted communication characterized by mutual respect rather than confrontation or fear. *Verbatim evidence:* “Choose a calm time to talk, ask for spouse's opinion, and discuss goals for the future. (P 2)”

Ways family planning services affected participants emotional well-being during the experiment

Moreover, responses shared by participants showed that counselling on family planning services yield beneficial outcomes as explained below.

Happiness and relational: This theme reflects positive emotional outcomes and improved interpersonal relationships following the intervention. Participants described feelings of happiness, joy, excitement, love and value, while also identifying better relationships with others. This suggests that receiving understandable reproductive-health information may have contributed to a more positive emotional state and a stronger sense of social connectedness. *Verbatim evidence:* “I feel happy, joy, excited, loved, valued, and how to relate with others (P 1)”

Enhance relationship: This theme indicates that family-planning counselling was perceived to improve close relationships, particularly with a spouse. This may reflect greater openness and shared understanding around reproductive-health decisions. The response provides direct evidence that the intervention had an interpersonal benefit in addition to its informational function. *Verbatim evidence:* “Close relationship with spouse (P 3)”

Stability and reduce fear: This theme demonstrates a reduction in psychological distress associated with reproductive-health concerns. Participants specifically described less stress, fewer worries and reduced fear and panic. This suggests that knowledge and counselling may have provided reassurance and increased participants' perceived ability to manage reproductive-health issues. *Verbatim evidence: "It has reduced fear, panic, and increase confidence. (P 4)"*

Autonomy: This theme indicates that participants experienced greater personal control after the intervention. Increased confidence and control are consistent with the broader pattern in which counselling supported independent reproductive-health decision-making and reduced feelings of helplessness. *Verbatim evidence: "More confidence and control." (P 3)"*

Improved self-esteem: The theme shows a direct improvement in participants' perceptions of their own worth. The participant connected improved self-esteem with reduced fear and a stronger feeling of being valued and honoured. This suggests that the intervention had an important psychosocial effect beyond health knowledge. *Verbatim evidence: "It has improved my self-esteem because my fear has reduced. I feel valued and honoured. I am not scared anymore like before. (P 5)"*

Improved confidence: This theme indicates that participants became more confident in exercising personal agency. The ability to make decisions without fear suggests that the intervention contributed to psychological empowerment and reduced dependence on others for reproductive-health choices. *Verbatim evidence: "I feel important and confident. I do not fear making my own decisions anymore. (P 3)"*

In summary from the qualitative data showed that the family-planning intervention was associated with better pregnancy-care knowledge, positive emotional responses, increased contraceptive awareness, stronger communication, better decision-making and greater autonomy. Participants also described reduced fear and stress, improved relationships, self-esteem and confidence. The consistent connection between accessible counselling, knowledge and psychosocial improvement suggests that the intervention addressed both reproductive-health information needs and emotional/social barriers.

DISCUSSIONS

The finding of the present study was that family planning counselling produced a statistically significant positive effect on psychosocial wellbeing. At pre-test, the experimental and control groups did not differ significantly on any psychosocial wellbeing component, with all p-values greater than .05. This indicates that the two groups were sufficiently comparable before the intervention. At post-test, however, the experimental group recorded substantially higher means than the control group on every dimension of psychosocial wellbeing almost to twice higher than participants in the control group.

The qualitative evidences further reinforced the quantitative result. The participants reported better pregnancy-care knowledge, awareness of contraceptive methods, improved communication, better decision-making,

greater autonomy, reduced fear and stress, improved relationships, self-esteem, and confidence. For example, one participant stated, *"I am so confident of myself. I cannot look down on myself anymore. I have confidence to seek help and health services when I feel is needed. I can now openly discuss health problems with my partner or with the doctor."* Another participant reported, *"It has improved my self-esteem because my fear has reduced. I feel valued and honoured."* These accounts suggest that family planning counselling operated beyond the transfer of contraceptive information to influence participants' sense of agency, emotional security, interpersonal relationships, and self-worth.

In fact, this shows a profound transformation of participants psychosocially in the experimental group after family planning counselling intervention. Therefore, family planning services should not be limited to the physical provision of contraceptives; they should deliberately incorporate counselling that enhances reproductive autonomy, confidence and psychosocial security. Failure to do so may perpetuate misinformation, dependence on others for reproductive decisions, anxiety and limited utilisation of family planning services among persons with hearing impairment.

The finding agrees with Barbosa et al. (2025), whose systematic review found low contraceptive knowledge among women with deafness and identified communication barriers as a major obstacle. The present study extends this evidence by showing that when family-planning information is made accessible through counselling, medical explanation, sign-language interpretation, and concrete teaching materials, the outcome can extend to psychosocial wellbeing. It also agrees with Alhusen et al. (2021), who identified systemic barriers, financial limitations, and nonresponsive healthcare providers as obstacles to family planning among women with disabilities.

In the present study, the intervention appears to have addressed some of these barriers through accessible communication and supportive interaction between the researcher and professional sign language interpreter hired during our study. Wu et al. (2021) similarly reported that deaf and hard-of-hearing persons were less likely to receive prescription contraception, while Agbenyeavu et al. (2025) found communication difficulties, stigma, financial constraints, and negative provider attitudes among Deaf women. The present finding therefore supports the broader empirical argument that the problem is not merely the existence of reproductive-health needs but the accessibility and responsiveness of services.

The result can be explained by the Oliver' Social Model of Disability (1983). Oliver's model of 1983 argues that disability-related disadvantage is produced substantially by environmental and social barriers rather than by impairment alone. In the present study, the provision of a sign-language interpreter, physical demonstrations, and understandable explanations reduced communication and informational barriers. The observed improvement in autonomy and positive relations therefore suggests that modifying the service environment can improve functioning even when the underlying hearing impairment remains unchanged. The result also fits Communication Access Theory, which emphasizes linguistic accessibility, provider competence, visual and written communication, understanding, and participation. Participants explicitly linked their

understanding and confidence to the presence of the medical doctor and sign-language interpreter.

The Person-Centered Approach by Carl Rogers (1961) further explains the improvement. Family planning involves personal values, partner relationships, reproductive preferences, and potentially sensitive fears. A counselling environment characterized by respect, empathy and acceptance can reduce fear and allow individuals to participate actively in decisions. This is reflected in the participants' reports of being valued, honoured, confident, and able to make decisions. Andersen's Healthcare Utilization Model also provides support because accessible information and counselling function as enabling conditions that make appropriate service utilization more possible. Thus, the findings indicate that family planning counselling can strengthen both the informational and psychosocial enabling conditions for reproductive-health decision-making.

Conceptually, the result is consistent with the study's definition of family planning counselling as an intervention intended to support informed fertility decisions, contraceptive use, reproductive autonomy, and reduction of uncertainty. The conceptual review argues that effective family planning counselling can reduce psychosocial distress associated with uncertainty and lack of control and can strengthen self-efficacy. Effective family planning contributes to reduced maternal mortality, improved child survival, and enhanced psychosocial wellbeing by empowering individuals to exercise reproductive autonomy (Glasier et al., 2021). The current finding empirically supports this proposition because the strongest changes were not limited to knowledge: participants also reported autonomy, reduced fear, improved self-esteem, stronger relationships, and confidence.

Beyond biomedical services, family planning is increasingly conceptualized as a rights-based intervention grounded in autonomy, dignity, and informed choice (Starrs et al., 2018). The implication is that if family planning counselling remains inaccessible, persons with hearing impairment may continue to experience misinformation, dependence on others for reproductive decisions, fear, low confidence, and strained partner communication. The study therefore demonstrates that accessible family planning counselling should be treated as both a reproductive-health service and a psychosocial support mechanism.

Conclusion

This study investigated the effect of family planning services on the psychosocial well-being of persons with hearing impairment in Buea Sub-Division, Cameroon. The findings provide empirical evidence that structured and accessible family planning counselling can contribute significantly to improving the psychosocial well-being of persons with hearing impairment. The statistically significant differences observed between the experimental and control groups following the intervention demonstrate the potential of reproductive health counselling to enhance psychological adjustment, emotional stability, interpersonal relationships and reproductive autonomy. Improvements across the six dimensions of psychosocial well-being, particularly environmental mastery, positive interpersonal relationships, autonomy and self-acceptance, further

underscore the importance of integrating psychosocial support into reproductive healthcare services.

The qualitative findings reinforced the quantitative results by revealing that participants who received family planning counselling experienced improved reproductive health knowledge, increased self-confidence, reduced anxiety and fear, enhanced communication with partners and greater independence in reproductive decision-making. These findings suggest that the benefits of family planning services extend beyond contraceptive awareness and reproductive health management to encompass broader psychological empowerment, social inclusion and personal development. Consequently, family planning counselling should be understood not merely as a reproductive healthcare intervention but also as an important mechanism for promoting psychosocial well-being among persons with hearing impairment.

Furthermore, the findings reinforce the relevance of the Communication Access Theory, which emphasises that effective communication is fundamental to meaningful healthcare participation, informed decision-making and psychological well-being. The study highlights the importance of addressing communication barriers, discriminatory practices and inadequate disability-sensitive healthcare provision that continue to undermine equitable access to reproductive health services.

From a practical and policy perspective, the study underscores the need for healthcare institutions, reproductive health practitioners, counsellors and policymakers to prioritise disability-inclusive family planning services. Particular attention should be given to providing qualified sign language interpreters, accessible reproductive health information, professionally trained counsellors and confidential, client-centred psychosocial support. Such measures would strengthen reproductive autonomy, improve healthcare experiences and promote the dignity and psychological well-being of persons with hearing impairment.

Nevertheless, the relatively small sample of twelve participants and the quasi-experimental nature of the study necessitate caution in generalising the findings beyond the study population. Future research should therefore involve larger and more diverse samples, extended intervention periods and longitudinal assessments to establish the sustainability of the observed psychosocial improvements. The study concludes that accessible, inclusive and psychologically responsive family planning counselling represents a promising intervention for improving the psychosocial well-being of persons with hearing impairment. Ensuring equitable access to reproductive healthcare is therefore not simply a matter of service availability but a fundamental requirement for promoting reproductive rights, psychological empowerment, social inclusion and human dignity.

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