Original Article

Use of Maternal and Reproductive Health Services During and After Donor Funding in Nzega District, Tanzania

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ABSTRACT

One of the United Nations' Sustainable Development Goals (SDG) is to ensure healthy lives and promote well-being for all at all ages. Therefore, maintenance of the application of maternal and reproductive health practices to Women of Reproductive Age (WRA) is crucial throughout women's lifetime. To find out whether this was happening, the study on which this paper is based examined the socio-demographic characteristics of women who had received maternal and reproductive health services in public health facilities and the extent of application of the maternal and reproductive health practices. A clinic-based descriptive cross-sectional study was conducted on women attending reproductive and child health clinics. Data were collected in 2023 from 121 respondents, mainly using a questionnaire that included a 54-point index summated scale to determine the extent of application of various maternal and reproductive health practices during and after donor funding. The points scored on the scale were expressed as per cents and compared using a paired samples t-test. The results showed an increase in the application of maternal and reproductive health practices after donor funding (49.1% during donor funding and 52.7% after donor funding), but the extents did not differ significantly (p = 0.308; effect size, r = 0.093). Among other things, the results were influenced by the women's socio-demographic characteristics. The increase shows that the application of the practices is likely to increase. Based on the findings and conclusion, it is recommended that the Government of Tanzania and other relevant stakeholders at all levels should take necessary measures to intervene with respect to various socio-demographic characteristics including age, gender, and marital roles, so that they cannot compromise the application of maternal and reproductive health practices in the research area.

INTRODUCTION

Maternal health can be defined as the health of women during pregnancy, childbirth, and during the postpartum period (WHO, 2023). World Health Organization (WHO) recommends that each stage of a woman during the pregnancy journey should be a positive experience that ensures women and their babies reach their full potential for health and well-being. Maternal and child healthcare services are very important for the health outcomes of the mother and the child and in ensuring that both maternal and child deaths are prevented (Tsawe *et al*., 2015). In 2015, an estimated 2, 100, 000 babies were born in the United Republic of Tanzania, or around 5 700 every day (URT, 2018). At the same time, approximately 830 women die every day from preventable causes related to pregnancy and childbirth (WHO, 2023). Therefore, maternal health is a significant feature for the development of any country to increase equity and foremost in solving broader, economic, social, and developmental challenges. Studies show that women who remain healthy during pregnancy and after delivery are more likely to stay healthy later in life and have better birth outcomes, influencing children's health from infancy through to adulthood (WHO, 2023).

The Government of Tanzania is committed to increase the use of key maternal health interventions. Recent programmes implemented by the government aimed at reducing maternal mortality through the National Road Map Strategic Plan to Improve Reproductive, Maternal, Newborn, Child & Adolescent Health in Tanzania 2016–2020 (MoHCDGEC, 2016) and the Health Sector Strategic Plan July 2015 – June 2020 (Tull, 2020). Moreover, the Ministry of Health, Community Development, Gender, Elderly and Children, through its Reproductive and Child Health Section, strives to ensure equitable provision of comprehensive reproductive, childbirth and child health services, along the continuum of care to all its citizens. Much of the emphasis is on improving the health status of women and children (URT, 2018). In the improvement of maternal and reproductive health services, the government cannot do it alone. Therefore, various donors join government efforts. Data is available which shows key donors who have worked with the Government of Tanzania on maternal health programmes (Tull, 2020). The mentioned donors are international and non-governmental organisations (INGOs) who are involved in several concurrent interventions, including reducing maternal mortality, improving family planning methods, supply and services; mother-to-child HIV transmission prevention; respectful maternity care, and SRHR (Sexual Reproductive health and Rights) service outreach projects which were funded by United States Agents for International Development (USAID), Pathfinder International, International Development Agency (DANIDA), and Korea International Cooperation Agency (KOICA), to mention but a few (Tull, 2020).

In Nzega District, in support of the efforts of the Government of Tanzania and other national actors, international health partners also provided technical assistance to improve maternal health services to enable the delivery of life-saving interventions for mothers, newborns, and children. Some of those partners are CARE International through Tabora Adolescent and Safe Motherhood (TABASAM) and Tabora Maternal and Newborn Health Initiatives (TAMANI) and

projects, Population Services International (PSI) through Adolescent 360 and Marie Stopes through the project of Family Planning and Elizabeth Glaser Paediatric AIDS Foundation (EGPAF) through MALEZI I & II. This study focused on TABASAM and TAMANI projects. Technical assistance provided by those partners included increasing the demand for, access to and uptake of voluntary modern contraceptives among adolescent girls, training and mentoring of Health Care Workers to provide emergency obstetric care, respectful maternity care, contraception and youth-friendly health services, health facility rehabilitation projects, and equipping health facilities to effectively deliver emergency obstetric care, training and mentoring of district and regional health planners in budgeting, data collection and use, and financial management of maternal and newborn health services, distribution of ambulances to support women and girls' access to emergency care, facilitating communities and health facility staff to develop joint action plans to improve health service delivery and accountability, training and support to scale up community health worker programme to deliver community-based health care and monitoring. Last, but not least, were community-based dialogues to reflect on sexual and reproductive health and rights, reflecting on the gender dynamics that impact health outcomes for women and girls (Davidson, 2015). Recent studies show that the proportion of births taking place in health facilities increased from 49% in 2013 to 85% in 2018 (CDC, 2022). The maternal mortality ratio in facilities declined from 303 maternal deaths per 100,000 live births in 2013 to 174 in 2018 (a decline of 43%, CDC, 2022). These results were due to the reasonable level of application of various maternal and reproductive health practices among the Women of Reproductive Age (WRA). The statistics of 2020 in the indicator of maternal care demonstrated that; in Tabora Region 85.8% of women aged 15–49 with live birth or stillbirth received antenatal care (ANC) from a skilled provider, 50.3% attended 4+ ANC visits, 81.7% took any iron-containing supplements during pregnancy, 71.7% whose most recent live birth was protected against

neonatal tetanus, 75.3% delivered with assistance by a skilled provider, 72.7% delivered in a health facility and 39.5% received a postnatal check during the first 2 days after delivery (URT, 2023). These data are among the evidence of the increased application of maternal and reproductive health services during donor funding and after the funding.

Besides medical aspects, there are various women's socio-demographic characteristics that influence the application of maternal and reproductive health practices in public health facilities by Women of Reproductive Age (WRA). In this analysis, the researcher explored how those socio-demographic characteristics are associated with the application of various maternal and reproductive health services during and after donor funding. The following factors have been widely documented in the literature and are known to influence the application of various maternal and reproductive health practices during donor funding and after the funding: Women's age, gender, awareness about available health projects, education level, marital status, parity, and distance to health facilities. Paul & Chouhan (2020), in their study on "*Socio-demographic factors influencing utilization of maternal health care services in India",* shared different demographic characteristics that influence the application of maternal and reproductive health practices which include women's education, age, and marital status. Paul & Chouhan (2020) observed that women's education has a significant positive influence on the use of maternal health care services. Compared to women with no education, women who had at least a primary level of education were more likely to apply and maintain the application of maternal care services. The same noted during this study that, 66.9% of women had primary-level education. Education has a positive influence on the utilization of maternal health care services. Compared with uneducated women, highly educated women were almost 2 times more on the application of maternal and reproductive health practices during and after donor funding (Paul & Chouhan, 2020). Another socio-demographic factor explored

during the research by Paul & Chouhan (2020) is age. They mentioned older women to be less likely to apply for maternal healthcare services than younger women. This was observed the same by the researcher during this study. The study was conducted during maternal clinics and involved Women of Reproductive Age (WRA) who comprised 93% of the respondents. This implies that, the fore mentioned results higher the possibility for WRA to apply maternal and reproductive health well even after donor funding. On marital status, the study results revealed that 88.7% of women were married; therefore, they were more likely to be occupied with the marital responsibilities of being a mother and a wife, but most of them witnessed to stretch themselves and attend maternal health services. This observed behaviour change is really contributed by the increased level of knowledge and understanding about the importance of maternal health. Previous studies conducted in India and Ethiopia on the utilization of maternal health care documented that, the utilization of maternal health care is influenced by several other socio-demographic factors like, accessibility-related factors, perceived benefits, and women's partial exposure to mass media and non-marginalization. Women's exposure to mass media was assessed from the frequency of reading newspapers and magazines, listening to the radio, and watching television on a weekly basis.

For this paper, the researcher associated the previously mentioned factors with the increased application of maternal and reproductive health practices even after phasing out of donor funds. Tsawe *et al*. (2015), in their article titled "***Factors influencing the use of maternal healthcare services and childhood immunization in Swaziland***" pointed out parity as among the factors influencing the application of maternal and reproductive health practices. The same was observed during this study, that women who had more than three living children tended to believe that they were more experienced in handling their maternal and reproductive health issues; as such, they utilized maternal health services less frequently as compared to those who had less than three children. Data from the three health facilities surveyed show that there were only 7% of women aged 36 to 49 participated in this study which gives a picture of their poor attendance in maternal health services. On the same case, most of the women in this age delivered at home and the reason for unexpected labour pains provided in which the researcher by observation is still questioning. Other observed factors that influenced the increased application of maternal and reproductive health practices after donor funding compared to during donor funding are the outbreak of COVID-19 and support provided through Community Health Workers (CHWs). However, more studies are needed on the application of various maternal and reproductive health practices among Women of Reproductive Age (WRA) in Nzega district to ensure that the projects that are funded by the donors are sustainable even after donor support is ended. Initially, this paper assesses the extent of application of various maternal and reproductive health practices during and after donor funding in Nzega District, Tanzania.

Methodology

Description of the Study Area

Nzega District was the geographical area for the research. The study was conducted in the health facilities of Itobo Health Centre, Mwanhala Dispensary, and Igusule Dispensary. The district is among seven districts of Tabora Region. Most parts of the district are in the northern part of Tabora Region. The district shares borders with Shinyanga Rural District in the North, Uyui District in the South, Kahama District to the West and Igunga District on the eastern side. The selection of the study area was based on the increasing number of projects related to maternal health in the district. Administratively, Nzega District is divided into 4 divisions and 37 wards with a total of 151 villages and 1 010 hamlets, distributed unevenly (URT, 2003). The divisions are Nyasa, Puge, Mwakalundi and Bukene. In terms of international identification, the district lies between latitudes $3^045'$ and $5^000'$ south of the Equator and between longitudes $32^030'$ and

33⁰30' east of the Greenwich. The district has a total land area of 6,961 sq. km, most of which are rolling plain with very few small hills and escarpments. The land available for agricultural production is 6 343 sq. km. Out of this arable land of the district, an average of 1 600 sq. km is cultivated annually, leaving 5 361 sq. km of useable and unusable land due to rock outcrops and other reasons such as poor soil fertility, soil erosion, riverbeds, and human settlements. About 4 296 sq. km are either forest reserves or natural forest while land used for grazing covers about 1 065 sq. km.

Figure 2.1: Map of Tabora Region showing the location of the study district
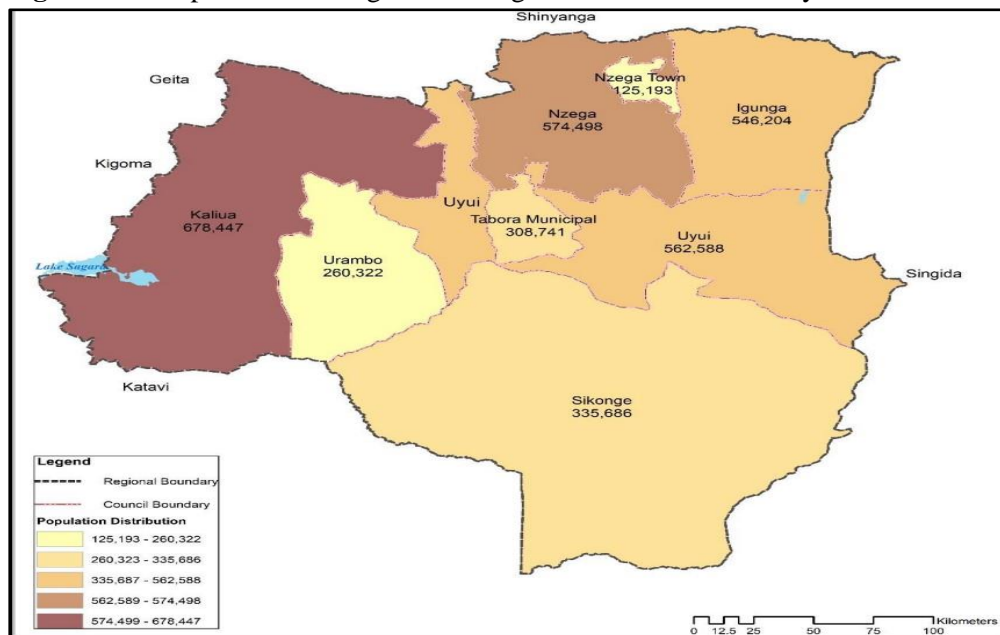
Source: Population Distribution Report, 2022

Over the years, the population of Nzega District has grown significantly. According to the 2022 Population and Housing Census, the district had 574 498 people (*Administrative Units Population Distribution Report*, 2022) compared to 296 082 inhabitants counted in 1988 Population Census resulting in a big increase of 119 121 people or an average annual growth rate of 2.5% during inter-censal period down from 2.8% of the previous inter-censal period of 1978 to 1988. The wards where the research was done, and the numbers of respondents sampled from them, are listed in Table 2.1.

Table 2.1: Wards of the respondents

Ward	Frequency	Per cent
Utwigu	40	33.1
Itobo	40	33.1
Igusule	41	33.9
Total	**121**	**100.0**

Study Design

A cross-sectional research design was applied to the study. The design allowed collection of data at one point in time from Women of Reproductive Age (WRA) found in health facilities during the RMNCH clinics (Creswell, 2014). Additionally, the study employed two sampling techniques, which were purposive and simple random sampling. Simple random sampling is the type of sampling whereby each item in the population has an equal chance of inclusion in the sample (Kothari, 2019). Purposive sampling is used to select respondents who are most likely to yield appropriate and useful information (Campbell,

2022). Nzega District and the wards were purposely selected due to the existence of literature information on the implementation of different donor-funded maternal health projects. Within the district, three health facilities Mwanhala, Igusule and Itobo were purposively selected out of 54 government health facilities in the district. Within all health facilities, only 121 Women of Reproductive Age (WRA) who were direct beneficiaries of the maternal projects were interviewed. The interviewed respondents were randomly selected during RMNCH clinics. The study results show that, respondents came from the villages of Utwigu, Mwanhala, Isalalo, Iyombo, Mwambaha, Itobo, Lakuyi, Chamwabo, Sojo, Ngogoto, Buduba, Ilalo, Mwanzwilo, Selemi and Wela.

Sampling Procedure and Sample Size

According to Fraenkel and Wallen (2000), a sample size of 30-100 respondents is the minimum acceptable for studies in which data are to be analysed statistically. Moreover, Louangrath (2017) demonstrated that in social science research the minimum sample size can range from 30-200 respondents, especially when the study involves generalization of the findings. Two-stage random sampling was done to select the respondents. First, random sampling was done to select 3 health facilities out of 54 government health facilities in which maternal health projects had been implemented within the district. This was followed by simple random sampling to select 121 WRA maternal and reproductive health project beneficiaries. In order to get different opinions from the groups, FGD participants were selected based on their sex because women were involved in donor-funded maternal projects. Lastly, purposive sampling was employed to select 14 key informants who included 5 Council Health Management Teams (CHMTs) members and 9 Health Care Workers within 3 Health Facilities.

Data Collection

In dealing with any real-life problem, it is often found that the data at hand are inadequate, and hence it becomes necessary to collect data that are appropriate (Kothari, 2019). In this study data collection was conducted between September 2023 and November 2023. Questionnaire copies were administered to 121 Women of Reproductive Age (WRA) who were found at three health facilities. The questionnaire comprised information about respondents' socio-demographic characteristics, duration of the respondents living in the area, knowledge of health projects which had been undertaken in their area, maternal and reproductive health practices, the extent to which women practised maternal and reproductive health practices, extent to which health facilities provided services which reflected the chances of the sustainability of maternal and reproductive health practices and factors for the sustainability of maternal and reproductive health practices which were highly implemented by donor-funded project, and respondents' suggestions of the sustainability of donor-funded maternal and reproductive health practices. The questionnaire was prepared in English because the researcher was the one who directly administered it to the respondents. At some points a translator who was a Community Health Worker (CHW) based at the health facilities was hired to translate from Swahili into Sukuma language and to elaborate on information obtained from the questionnaire.

During this study, 3 Focus Group Discussions (FGDs) were conducted, one at each health facility. Each of the FGDs involved 10 to 12 participants in each discussion session. The FGD comprised Women of Reproductive Age (WRA) who were found at the health facilities during the MNRCH clinics. In-depth Interviews (IDIs) were conducted with 14 key informants from the district to facility level including representatives of Nzega Council Health Management Team (CHMT) and Health Care Workers (HCWs).

Data Analysis

Data processing involves coding, summarizing, recording, analysis, and interpretation. The IBM SPSS Statistics and Microsoft Excel were used to analyse quantitative data. Ratios, rates, percentages, and frequency distributions were

used. Cross-tabulation with Chi-Square was used to measure the association between the socio-demographic characteristics of women and the application of various maternal and reproductive health practices previously funded by donors. In addition, a 54-point index summated scale was used to determine women's extent of application of various maternal and reproductive health practices previously funded by the donors. Points scored on the scale were expressed as percentages considering the term "extent of application", not just points scored on the scale. The normality of the overall percentages of the points scored before 2023 and in 2023 was checked for normality by computing their normal distribution curves and found to be normally distributed. Therefore, they were compared using a paired-sample t-test.

Results and Discussion

Respondents' Socio-demographic Characteristics

A total of 121 women from three health facilities were interviewed during this study. Their socio-demographic characteristics included age, gender, marital status and education level as explained in detail below.

Age of the respondents

The findings showed that the age distribution of respondents from the study area ranged from 16 to 49 years old. The majority (93%) were below 35 years of age, and the mean age was 26.3 years. The youngest respondent was aged 16 while the oldest was 49 years. This age group is considered as the women's reproductive age range, and thus the women interviewed were among the direct beneficiaries of the Maternal and Reproductive Health donor-funded projects in Nzega District. The health of women of reproductive age is the basis for forming the health of new generations of the population (Natsun, 2020). During the

reproductive age, women actively engage in seeking maternal health services, including pregnancy and delivery. The results showed that the involvement of Women of Reproductive Age (WRA) respondents below 35 years was a rich source of information on the extent of application of various maternal and reproductive health practices during and after donors in the study area.

Sex of the respondents

The findings showed that all the 121 (100%) the respondents interviewed during the study were females. It should be understood that the majority of the direct beneficiaries of maternal and reproductive health donor-funded projects were women. Additionally, in most cases, they are the ones who received maternal and reproductive health services in public health facilities where the study was conducted. Additionally, starting at puberty and continuing until menopause, women typically experience a range of reproductive health issues. These can include menstrual problems, sexually transmitted infections, contraceptive methods, infertility, pregnancy, childbirth, and menopausal issues. Therefore, they would significantly be more likely to seek maternal health services.

Marital status

The findings showed that the majority of the respondents were the beneficiaries of Maternal and Reproductive health donor-funded projects, and their marital status distribution is 107 (88.4%) were married; 13 (10.7%) were not married; and 1 (0.8%) was divorced (Table 2.2). The results of marital status found in the study area are the same as what was reported by the National Bureau of Statistics Facts and Figures 2017 (NBS, 2017) that is, more women got married compared to those who were not married and those who were divorced.

Table 2.2: Respondents' marital status

Marital status	Frequency	Per cent
Married	107	88.4
Not Married	13	10.7
Divorced	1	0.8
Total	**121**	**100.0**

The education level of the respondents

Education is an important aspect in assessing the quality of the labour force available in the country (NBS, 2017). Therefore, it was assessed among the respondents, and the findings showed that 25.6% of the respondents had no formal education, while 66.9% had primary education; 6.6% had O – Level secondary school; and 0.8% had post-secondary school certificate (Table 2.3). The above results show that the majority of women of reproductive age who participated in the study had a primary level of education, the same as what was reported by the National Bureau of Statistics Fact and Figure that, the majority of women aged 15 years and above had primary level of education while the majority of men had secondary education (NBS, 2017). Moreover, the majority of women having elementary level of primary education is associated with the study results that the extent of application of maternal and reproductive health practices was higher after donor funding compared to during the donor funding time. That is, women's awareness of RMNCH services increased and their application behaviour changed as well.

Table 2.3: Respondents' levels of education

Level of education	Frequency	Per cent
No formal education	31	25.6
Primary school	81	66.9
O-Level secondary school	8	6.6
Post-secondary school certificate	1	.8
Total	**121**	**100.0**

Awareness of community-based health projects implemented in the area

Most of the health improvement programmes are implemented in the form of projects. Projects are considered more efficient in achieving their objectives as compared to the rigid bureaucratic style of public management (Saleem *et al.,* 2020). Although several studies have focused on MNCH projects, little attention has been paid to studying the effective implementation of MNCH projects across their various phases (Saleem *et al.,* 2020). The findings demonstrate that the government recognizes the contribution of NGOs to the health field although there might be a slight gap in the involvement of the beneficiaries of the projects. However, the results in this study showed that 46 (38.0%) knew whether there were community-based health projects implemented in their area, while 8 (6.6%) said "No" and the majority [67 (55.4%)] responded that they didn't know about the implementation of the projects as clearly stipulated in Table 2.4. One of the significant factors in reducing the mortality rate is the Reproductive, Maternal and Child Health (RMNCH) program. Therefore, there is a need to review the RMNCH program afresh in developing countries (Saleem *et al.,* 2020). This study analyses health projects including RMNCH implemented in the study areas by understanding women's awareness of the operation of those programmes.

Knowledge of health projects undertaken in their area

The respondents were asked about their knowledge of health projects which had been implemented and which were being implemented in their villages. Only 46 of them responded to the question and gave the 189 responses presented in Table 2.4. Maternal, neo–natal and child Health (MNCH) was among the projects which were well-known by those who responded to this question.

Table 2.4: Knowledge of health projects undertaken in their area

Knowledge of health projects implemented	Responses*		Percent of Cases
	N	Percent	
Malaria	45	23.8	97.8
HIV&AIDS	44	23.3	95.7
Family planning	42	22.2	91.3
Maternal, Neo–natal and Child Health (MNCH)	43	22.8	93.5
Tuberculosis	8	4.2	17.4
Typhoid	3	1.6	6.5
Cancer	4	2.1	8.7
Total	**189***	**100.0**	****

*The 46 people who responded to those questions gave 189 answers.

** The per cents do not add up to 100% due to multiple responses.

Maternal and Reproductive Health Practices

The findings regarding respondents' maternal and reproductive health practices before 2023 and in 2023 showed that there was some increase in the application. An average of only 30.6% of women reported to have needed antenatal care services; 31.4% needed delivery health care and 32.2% needed postnatal health care before 2023. The extents of applying maternal and reproductive health practices were higher in 2023 compared to previous years whereas 94.2% of women reported to have needed antenatal care services; 93.4% needed delivery health care and 93.4% needed postnatal health care (Table 2.5). There was a significant association between maternal and reproductive health practices before 2023 and in 2023 with women's socio-demographic characteristics. Others said that the reasons that influenced maternal and reproductive health practices after donor funding included the role of mass media, outbreak of COVID-19 and increased interventions on maternal health. As reported by Kumar & Kumar (2023) showed that studies done in LMICs there was almost a 50% decrease in hospitalization and emergency visits during the pandemic.

Table 2.1: Maternal and reproductive health practices

Maternal and reproductive health practices	Yes		No		Don't know	
	n	%	n	%	n	%
Whether they were pregnant from 2013 to 2015	35	28.9	85	70.2	1	0.8
Whether they had an under-five year old child from 2013 to 2015	35	28.9	85	70.2	1	0.8
Whether they needed antenatal health care from 2013 to 2015	37	30.6	82	67.8	1	0.8
Whether they needed delivery health care from 2013 to 2015	38	31.4	82	67.8	1	0.8
Whether they needed postnatal health care services from 2013 to 2015	39	32.2	81	66.9	1	0.8
Whether they were pregnant from 2017 to 2021	39	32.2	81	66.9	1	0.8
Whether they had an under-five year old child from 2017 to 2021	70	57.9	49	40.5	1	0.8
Whether they needed antenatal health care from 2017 to 2021	72	59.5	48	39.7	1	0.8
Whether they needed delivery health care from 2017 to 2021	72	59.5	48	39.7	1	0.8
Whether they needed postnatal health care services from 2017 to 2021	72	59.5	48	39.7	1	0.8
Whether they were pregnant from 2022 to date	113	93.4	7	5.8	1	0.8
Whether they had an under-five year old child from 2022 to date	114	94.2	6	5.0	1	0.8

Maternal and reproductive health practices	Yes		No		Don't know	
	n	%	n	%	n	%
Whether they needed antenatal health care from 2022 to date	114	94.2	6	5.0	1	0.8
Whether they needed delivery health care from 2022 to date	113	93.4	7	5.8	1	0.8
Whether they needed postnatal health care services from 2022 to date	113	93.4	7	5.8	1	0.8

Comparisons of extents of applying maternal and reproductive health practices

As explained in the methodology chapter, the comparison of extents to which the respondents practised the specified maternal and reproductive health practices before 2023 and in 2023 was determined using a 54-point index summated scale. The scale comprised 18 items on which every respondent would score a minimum of 0 if one scored 0 for all of them and a maximum of 54 points if one scored 3 points for each of the 18 items. The scale was divided into 7 items for antenatal care, 4 items for delivery, and 7 items for postnatal care. The 0 and 54 possible minimum and maximum scores on the scale were arrived at by multiplying 18 by 0 and 3, respectively. Since the numbers of the items and the scores for each of the three types of care were different, the scores on them were expressed as per cents for ease of comparison. The normality of the overall and disaggregated points by types of care before 2023 and in 2023 were checked for normality by computing their normal distribution curves and found to be normally distributed. Therefore, paired-samples t-tests were used to compare them. The results are presented in Table 2.6.

The results in Table 2.6 show that there was more application of maternal and reproductive health practices in 2022/23 compared to before 2023, which is shown by the scores in 2023 being higher than those before 2023. However, in all cases, the scores were not significantly different; the differences were small as shown by the p-values that were greater than 0.05 at the confidence interval of 95% that was used. The fact that the differences were small is also shown by the small effect sizes all of which were small. According to Cohen (1998) and Navarro (2015), cited by Field (2018), if the effect size is 0.2 the difference is small; if it is 0.5 the difference is moderate; and if it is 0.8 the difference is large.

Table 2.2: Comparisons of extent of applying maternal and reproductive health practices

Pairs compared	Mean %	n	T	df	Sig. (2-tailed)	Effect size*
Scores on antenatal healthcare before 2022	47.7	121	-1.745	120	0.084	0.157
Scores on antenatal healthcare in 2022/23	53.6	121				
Scores on delivery healthcare before 2022	46.4	121	- 0.557	120	0.579	0.051
Scores on delivery healthcare in 2022/23	48.5	121				
Scores on postnatal healthcare before 2022	52.0	121	- 0.581	120	0.562	0.053
Scores on postnatal healthcare in 2022/23	54.3	121				
Overall extents to which they practiced specified maternal and reproductive practices before 2022	49.1	121	- 1.024	120	0.308	0.093
Overall extents to which they applied specified maternal and reproductive practiced in 2022/23	52.7	121				

*Effect size is the magnitude of the difference between groups

The plausible explanation for more application of maternal and reproductive health is increased awareness and knowledge about maternal and reproductive health practices among women of reproductive age, especially because, besides the previous financiers of health projects in the

research area, the government has also been promoting such awareness and knowledge. According to TDHS-MIS (2022), the percentage of births assisted by a skilled birth attendant had increased markedly over time; there was a large increase from 66% in the 2015–16 TDHS-MIS to 85% in the 2022 TDHS-MIS. These results are associated with having some of the technical assistance provided by previous donor-funded health projects.

Additionally, in order to improve maternal health services, donors provided training and capacity building to Health Care Workers (HCWs) including birth attendants. Trained birth attendants can sustainably serve communities for more than 20 years. Moreover, these results are in line with the findings of a previous study by Ilesanmi & Afolabi (2022) who found that donor-funded projects were sustained beyond the funding lifecycle in some African countries and that the facilitators of sustainability in Africa included community ownership of the project through engagement of community stakeholders in the design and implementation of such projects, use of locally available resources, sound infrastructure, and the constitution of interdisciplinary teams to facilitate capacity building. However, the results are contrary to those by Nyanga (2022) who reported that sustainability is one of the key areas of focus of any donor-funded project. He provided evidence that most of African countries and countries like Mongolia experience the problem of a lack of funding for institutional support, such as office rental, electricity as adherence to donor policies which affects the sustainability of those projects. However, a Results-Based Financing (RBF) project implemented in Mali was characterized by a weak level of sustainability (Seppey *et al.*, 2017). The difference in the results could be due to the fact that the sustainability of a project cannot be in all components; some of the components can be sustainable while others are not. What to keep in mind is to have a workable sustainability plan and put it into practice from the beginning to the end of the project.

Conclusions and Recommendations

Conclusions

In conclusion, the results show that the extent of application of various maternal and reproductive health practices by women in Nzega increased after donor funding compared to during donor funding. These results were influenced by many factors which included women's individual and socio-demographic characteristics such as age, sex, gender, and marital status. Furthermore, the increased application of maternal services was due to personal factors like behaviour change and increased level of knowledge and awareness of maternal and reproductive health. More than 50% of the Women of Reproductive Age (WRA) who participated in this study confirmed to understanding of the importance of maternal health services; that is why they were pushed from inside to attend these services. However, it was reported that women were challenged by marital status and gender roles including being a wife and a mother, but most of them, because of increased awareness and knowledge about maternal health, stretched up to attend RMNCH services. Nevertheless, the results were also contributed by natural factors like the outbreak of COVID-19 and the sustainability of work done by Community Health Workers (CHWs). These results are thought to be the same as in other areas in Tabora Region.

Recommendations

Based on the findings and conclusions, the study recommends evidence-based strategies and interventions to improve and maintain the extent of application of maternal and reproductive health practices by women of reproductive age during and after donor phased out. As the study results show that there was more application of maternal and reproductive health practices after donor funding compared to during donor funding, the Government of Tanzania and other relevant stakeholders at all levels should take necessary measures to intervene with respect to various socio-demographic characteristics including age, gender, and marital roles, so that they cannot compromise the application of maternal and

reproductive health practices. However, more studies are needed to thoroughly investigate the extent of application of various maternal and reproductive health practices during and after donor funding and how they can be addressed.

Acknowledgments

References

Cohen, J. (1998) *Statistical Power Analysis for the Behavioural Sciences*. Lawrence Erlbaum Associates, Hillsdale.

Creswell, J. W. (2003). Research Design, Qualitative, Quantitative and Mixed Methods Approaches. Sage Publications London, New Delhi, Thousand Oaks. 244pp.

Davidson, M. (2015). *Improving Maternal and Reproductive Health in Six Districts in Tabora, Tanzania.* Final Report 035251. Cooperative for Assistance and Relief Everywhere, Tabora, Tanzania. 64pp.

Field, A. (2018). *Discovering Statistics Using IBM SPSS*. (5th Edition). Sage Publications Ltd., London. 1070pp.

Fraenkel, R. J., & Wallen, E. N. (2000). How to design and evaluate research in education (4th ed.). San Francisco: McGraw-Hill.

Ilesanmi, O. S., & Afolabi, A. A. (2022). Sustainability of donor-funded health-related programs beyond the funding lifecycle in Africa: A systematic review. *Cureus* 14(5): 1–12.

Kothari, C.R. (2019) Research Methodology: Methods and Techniques. 4th Edition, New Age International Publishers, New Delhi.

Louangrath, P.I. (2017). "Minimum Sample Size Method Based on Survey Scales." Inter. J. Res. Methodol. Soc. Sci., Vol., 3, No. 3: pp. 44–52. (Jul. – Sep. 2017); ISSN: 2415-0371

Muelasa, A., & Navarro, E.A (2015) Learning Strategies and Academic Achievement. Social and Behavioral Sciences, Spain.

Ministry of Health. (2016). The National Road Map Strategic Plan to Improve Reproductive, Maternal, Newborn, Child and Adolescent Health in Tanzania - One Plan II. June, 142.

National Bureau of Statistics (2013). Tanzania in Figures 2012. Population and Housing Census 2012. National Bureau of Statistics (NBS), Dar es Salaam, Tanzania. 71pp.

National Bureau of Statistics (NBS) [Tanzania]. 2022. The 2022 Tanzania Demographic and Health Survey and Malaria Indicator Survey Report (2022 TDHS-MIS). Dodoma, Tanzania: NBS.

Natsun, L. (2020) Women of Reproductive Age Health. VL – 3, Society and Security Insights, Vologda, Russia.

Paul, P., & Chouhan, P. (2020). Socio-demographic factors influencing utilization of maternal health care services in India. Clinical Epidemiology Global Health.

Saleem F, Murtaza I, Hyder S, Malik MI. Public Health and Project Management: Do Projects Deliver? *Int J Environ Res Public Health*. 2020 Oct 3;17(19):7244. doi: 10.3390/ijerph17197244. PMID: 33023044; PMCID: PMC7579134.

Seppey, M., Ridde, V., Touré, L., & Coulibaly, A. (2017). Donor-funded project sustainability assessment: A qualitative case study of a results-based financing pilot In Koulikoro Region, Mali. *Globalization and Health* 13: 86 1–15.

Tsawe, M., Moto, A., Netshivhera, T., Ralesego, L., Nyathi, C., & Susuman, A. S. (2015). Factors influencing the use of maternal healthcare services and childhood immunization in Swaziland. *International Journal for Equity in Health* 14(32): 1–12.

Tull, K. (2020). Maternal and sexual reproductive health situation in Tanzania. [https//:opendocs.ids.ac.uk/handle]site visited on 20/2/2024.

UNDP (2018). Good health and well-being. [http://www.Undp.Org] site visited on 20/2/2024.

URT (2018). *Antenatal Care Guidelines.* Ministry of Health, Community Development, Gender, Elderly and Children, Dodoma, Tanzania. 66pp.

URT (2022). *Administrative Units Population Distribution Report*. National Bureau of Statistics. Dodoma Tanzania. 290pp.

URT (2023). *Administrative Units Population Distribution Report*. Ministry of Finance and Planning National Bureau of Statistics Tanzania and Presidents' Office - Finance and Planning Office of the Chief Government Statistician Zanzibar, Tanzania. 54pp.

URT (2023). Survey *And Malaria Indicator Survey 2022 Key Indicators Report*. Ministry Of Health (Moh) [Tanzania Mainland], Ministry of Health (Moh) [Zanzibar], National Bureau of Statistics (NBS), Office of The Chief Government Statistician (Ocgs), And Icfministry of Health (MoH) [Tanzania Mainland], Ministry of Health Zanzibar, Tanzania. 23pp.

World Health Organization. Maternal Health, 2008 [cited 2024 February 21]. Available from: URL:http://www.who.int/topics/maternal_health/en/.