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Willingness to bone allograft donation and transplantation in sub-Saharan Africa: a multi-country cross-sectional study

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Abstract

Bone is the second most frequently transplanted human tissue worldwide. In sub-Saharan Africa, donor and recipient consent for bone allograft donation and transplantation remains uncertain due to diverse sociocultural, religious, and socioeconomic contexts. This study assessed public attitudes toward bone allograft donation and transplantation in Cameroon, the Democratic Republic of Congo, and the Republic of Côte d'Ivoire to support the planning and implementation of bone banking programs. A multicountry cross-sectional survey was conducted between January and December 2024. Six hundred adults were recruited using a non-probabilistic, stratified convenience sampling in urban and rural settings. After informed consent, participants completed a structured questionnaire, self-administered whenever possible capturing sociodemographic data, willingness to donate and receive bone allografts, and perceived reasons for refusal. Descriptive analyses and univariate and multivariate logistic regression models were used to identify factors associated with willingness. The mean age of participants was 36.2 years. Overall, 72.5% reported willingness to donate bone allografts and 72.8% reported willingness to accept transplantation. The main reasons for refusal included belief-related or religious considerations, fear of trafficking, and expectations of financial compensation. In multivariable analyses, willingness to donate was independently associated with country of residence, religious affiliation, and occupation, while willingness to accept transplantation was associated with country and religious affiliation. Willingness to donate and receive bone allografts in the surveyed sub-Saharan Africa settings was relatively high although marked heterogeneity existed between countries. Key barriers include religious beliefs, mistrust of health systems, and socioeconomic vulnerability. The development of bone banking programs in the region will require culturally sensitive education, transparent governance, and active community engagement to transform expressed willingness into effective donation practices.

Keywords: Bone allograft; Bone banks; Sub-Saharan Africa; Tissue donation; Transplantation consent.

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