Cancer awareness of community level health care workers in the Kilimanjaro Region, Tanzania

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Background

- Cancer is a growing burden of disease worldwide. In the region of Sub-Saharan Africa (SSA), the cancer burden is estimated to increase by 85% by the year 2030 [1].
- Treatment is already possible in three hospitals in Tanzania. However, difficult access to the health system and inadequate early detection contribute to late diagnosis and remaining high mortality rates [2,3].
- A low level of cancer awareness in the population and health care workers is facilitating deficient prevention measures, screening and treatment [4].
- A pilot cancer awareness training for community level health care workers, working in rural areas in the Kilimanjaro Region in Tanzania, aimed to increase their cancer awareness for comprehensive cancer control [5].
- Community level health care workers in Tanzania are **community health workers** (CHWs) who are voluntary community members with basic medical training as well as **dispensary health care workers** (DHCWs), ideally represented by nurses and medical assistants [6].
- Main research interest was to assess the effects of the training on cancer knowledge of the health care workers and their application of the new knowledge into practice.
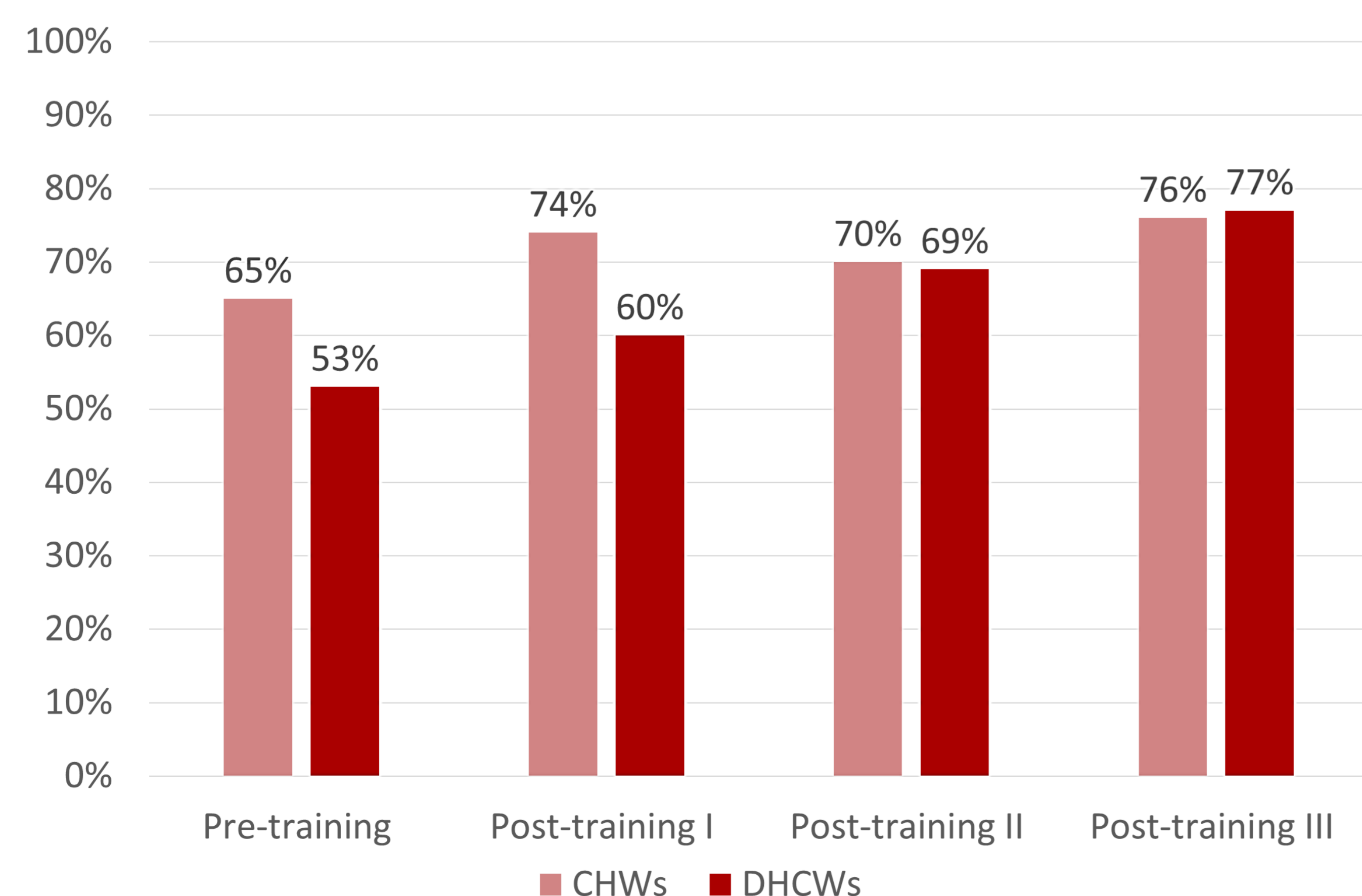
Methods

- A group of **CHWs** (n=25) and a group of **DHCWs** (n=16) attended the cancer awareness training. Three training days were provided for each group over a period of three months (one day per month).
- A questionnaire was developed to assess **cancer knowledge** in a pre-/post-training panel survey (Tab. 1). The questionnaires for the two groups were different, according to the assumed knowledge level of the health care workers.
- **Application of this knowledge into practice** was assessed at follow-up and complemented with qualitative data.
- Analysis of the questionnaires was done by descriptive statistics. Qualitative data were analyzed by semantic thematic analysis.

Tab. 1: Survey timing

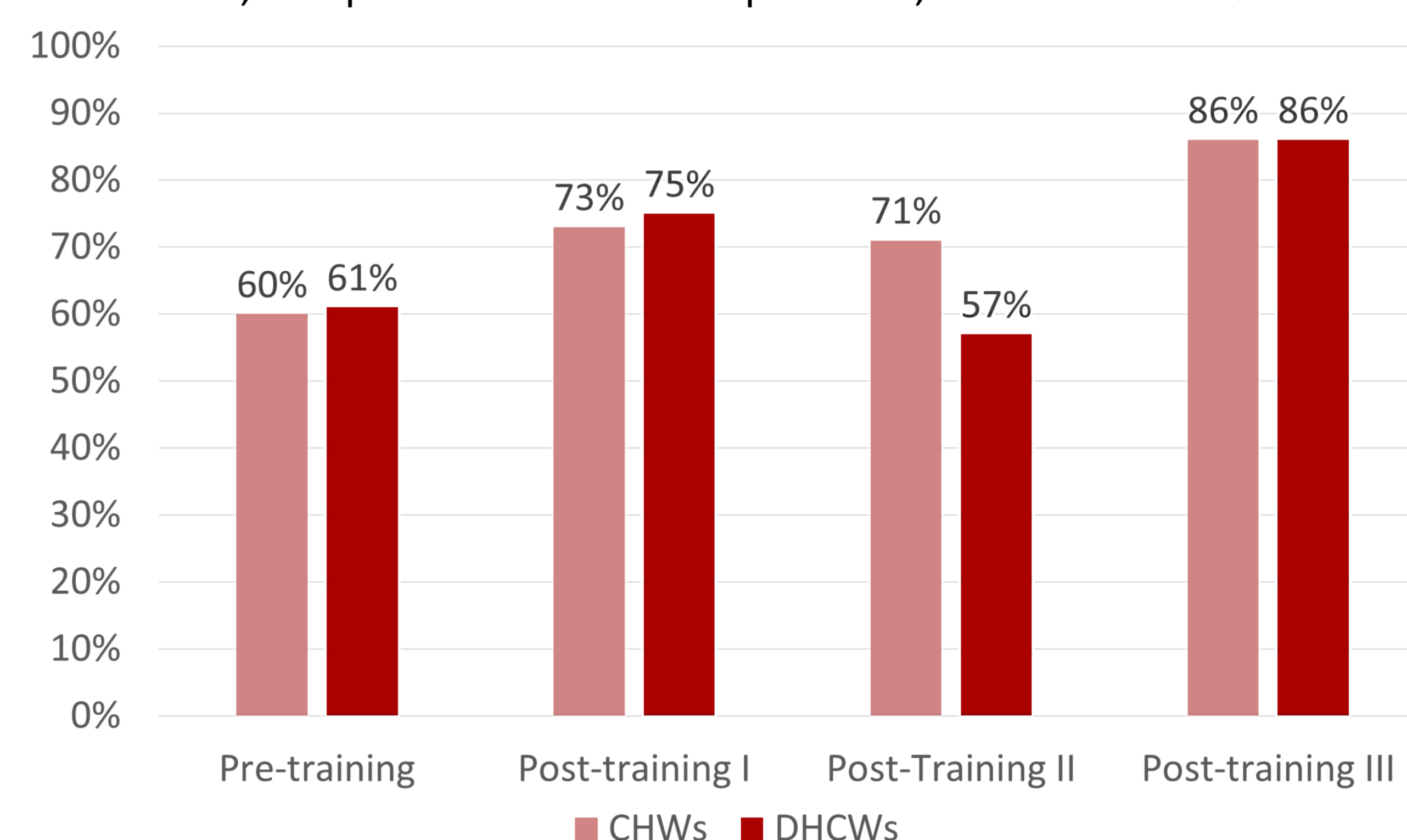|	Time points			
	t0 Baseline	t1 Follow-up	t2 Follow-up	t3 Follow-up
Time of the survey	June 2018 Pre-training	June 2018 same day as t0, post-training	July 2018 1 month after t0/t1, post-training	Sept. 2018 3 months after t0/t1, post-training
Survey	Baseline and pre-training questionnaire	Post-training I questionnaire	Post-training II questionnaire	Post-training III questionnaire

Results

Fig. 1: Cancer knowledge of CHWs and DHCWs in pre- and post-training assessment, mean scores in %

- CHWs: Cancer knowledge increased by 10% (95% CI=2-18%, p=0.015)
- DHCWs: Cancer knowledge increased by 24% (95% CI=13-36%, p=0.002)
- No remarkable difference between CHWs and DHCWs regarding cancer knowledge in pre-test assessment and increase after completing the training period in seven selected comparable questions (Fig. 2).

Fig. 2: : Cancer knowledge of CHWs and DHCWs in pre- and post-training assessment, compared with selected questions, mean scores in %

- CHWs and DHCWs were motivated to apply the cancer knowledge into practice (e.g. educate their communities about cancer, the importance of cancer screening and early detection; discuss consultation of local healers and cancer treatment with herbs).
- Both groups feel more confident about the referral pathway and started to network with other health facilities providing outreach cancer screening in the communities.

Conclusion

- The training successfully reached its goals of increasing cancer knowledge of the community level health care workers, practical application and empowerment for cancer control.
- The DHCWs were expected to have more medical knowledge than the CHWs, but did not show remarkable differences in the assessment (Fig.2). DHCWs often have no formal training, even though they are required. Due to shortage of the health workforce in Tanzania, DHCWs are often untrained and work as para-professionals [7]. This needs to be considered in further trainings.
- Community level health care providers are an important link to the health system for many people in rural Tanzania and need more trainings to provide comprehensive cancer control.
- This concept of a cancer awareness training could also be effective in many other low-resource settings in SSA with a growing burden of NCDs.

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