

## **Strengthening character among frontline health workers delivering care to underserved communities in Sindh, Pakistan**

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**Funding** This study was supported by the Templeton World Charity Foundation [TWCF-2021-20711]. The funding source for the study had no role in the study design, data collection, data analysis, data interpretation, or manuscript writing.

**Acknowledgements** We extend our gratitude to the frontline health workers who tirelessly provide essential primary healthcare services in underserved communities. Their dedication and resilience are the foundation of our work. We also thank Muhammad Owais Siddique, Nowshaba Naz, Maryam Abdul Rasheed, and Bisma Abbassi for their invaluable contributions to the successful implementation of this project.

### **Competing Interest**

The authors declare that they have no known competing financial interests or personal relationships that could have influenced the work reported in this paper.

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Please note that this is the final preprint version of this article which was subsequently published in the Journal of Moral Education and can be found here:

<https://www.tandfonline.com/doi/full/10.1080/03057240.2025.2484039>. Please download/cite/reference the JME version of this paper.

## **Strengthening character virtues among frontline health workers delivering care to underserved communities in Sindh, Pakistan**

We conducted a multiphase mixed-methods pilot in two districts of Sindh, Pakistan, to evaluate the impact of a humanities-based curriculum on frontline health workers (FHWs). Rooted in local literature and arts, the curriculum aimed to foster character development and enhance well-being. A total of 112 FHWs participated in eight weekly sessions. We assessed the impact using an adapted Claremont Purpose Scale (CPS) pre- and post-intervention, alongside in-depth interviews with FHWs and their supervisors. The CPS scores increased by 5 points from baseline (median = 48, IQR = 43-52) to endline (median = 53, IQR = 49-58;  $p < 0.001$ ), and 3-month follow-up (median = 53, IQR = 48-57). Participants rated the sessions highly for content, delivery, and overall success. Supervisors observed improvements in FHWs' professional conduct, self-regulation, and communication. Findings suggest that localized humanities-based training can strengthen FHWs' sense of purpose and well-being, though further research is needed to explore long-term effects.

**Keywords:** character development; humanities curriculum; frontline health workers; sense of purpose; lady health workers and vaccinators

## INTRODUCTION

Frontline-health workers (FHW) are an integral part of the primary care health system and are recognized as an 'essential' workforce, yet they are often undervalued and lack sufficient support (Kinder, 2020; Witmer et al., 1995). Globally, FHWs, including community health workers, midwives, vaccinators, pharmacists, and counselors, express feelings of neglect and inadequate investment in their welfare and professional development (Kinder, 2020; Love et al., 1997). During the COVID-19 pandemic, FHWs played a crucial role in ensuring access for basic health services to the most underserved areas (Ashley et al., 2021; Mistry et al., 2021). However, the pandemic only further intensified their predicament by placing their physical and mental health at risk due to increasing rates of morbidity and mortality, staff shortage, overwhelming workload, high exposure threats, and sporadic policy changes (Ashley et al., 2021; Grünheid & Hazem, 2023; Mistry et al., 2021). Given the ongoing neglect of FHW welfare, projections indicate that nearly 10 million workers could drop out of the health system, particularly in low- and middle-income countries (LMICs) (WHO, 2019).

In Pakistan, FHWs such as vaccinators and lady health workers (LHWs) (the latter is the official designation of female frontline health workers under a nationally recognized program - Lady Health Worker Program (LHWP)) are crucial for serving vulnerable communities with limited access to facility-based healthcare (Butt et al., 2020). The 60% drop in Pakistan's child mortality over the last five decades can be attributed mainly to these FHWs (UNICEF, 2020). During national immunization campaigns, FHWs reach almost 40 million children per campaign with lifesaving vaccines (Babakhel, 2021). Despite their significant contributions, FHWs face

substantial burdens, including stress, fatigue, burnout, and emotional strain exacerbated by adverse working conditions, inadequate compensation, and a lack of recognition (Andlib et al., 2022; Majumdar et al., 1997; Ullah, 2022; Zhu et al., 2014). These challenges diminish motivation and resilience, impacting both FHWs' fulfilment and the quality of care they provide to the communities they serve (Ullah, 2022).

While addressing systemic issues such as improved monetary benefits, an enhanced workplace environment, security, and professional growth prospects is paramount for supporting the well-being and retention of frontline health workers (FHWs), it is equally important to strengthen their intrinsic motivation and cultivate a sense of fulfilment and purpose (Franco et al., 2002). This approach reinforces their resolve and enables them to better manage the adversities and challenges inherent in their work. A sense of purpose in life, integral to an individual's overall well-being, entails having clear direction and meaningful goals that extend beyond oneself (Bronk et al., 2018). Anchored in core values, purpose redirects individuals towards productive engagement with the world (Nakamura et al., 2022). Recognizing the importance of having meaningful values and goals, a higher purpose provides individuals with a stronger will to live, motivating them to withstand short-term discomfort in pursuit of long-term rewards (McKnight & Kashdan, 2009). Research from the fields of positive psychology and organizational behavior identify professional work as a key driver of sense of purpose when individuals efforts contribute to something meaningful that extends beyond-the-self (der Kinderen & Khapova, 2020; Ward & King, 2017).

There is a growing emphasis within public health on incorporating professional training rooted in humanities as a way to instill purpose and strengthen character virtues among health workers (González-Arias & Swain, 2024; Mar et al., 2009; Vitz, 1990; Wald et al., 2019). Encouraging curiosity, enhancing self-reflection through interactive

feedback, establishing clear goals, offering mentorship, and addressing practical challenges related to an individual's role and responsibilities foster a sense of purpose (Chang & Shih, 2019; Waller, 2020). Recognizing the significance of adopting a humanities-based training approach, in our earlier work, we developed a humanities-based curriculum contextualized to the needs of LHWs working in Pakistan (Siddiqi et al., 2022). Each of the six modules in the course focused on specific character strengths (e.g. empathy, compassion, connection) and included excerpts from local folklore, stories, poems and short films to make the content immersive and connect with participants at a deeper level. We trained almost 50 LHWs on the curriculum over 12 weeks and found that participants demonstrated an increase in their empathy, compassion, and interpersonal communication after the training. These initial findings helped establish the feasibility and value of developing and deploying a Humanities curriculum among LHWs to facilitate character development and promote human flourishing. Building on these positive preliminary results, in this study, we conducted further research to enhance the content and delivery of the already developed Humanities curriculum to expand its scope and application across other FHW cadres and diverse geographical settings. Notably, we updated the curriculum content to address additional character strength of sense of purpose, adapted the curriculum for vaccinators and LHWs, and implemented the trainings in both urban and rural settings. The purpose module included topics on emotional intelligence, resilience, solidarity and interconnectedness, all aimed at fostering character development and morality of the FHWs within the realm of public arts.

Our current research therefore builds upon our earlier work and addresses these gaps by exploring the impact of a humanities curriculum, deriving on local arts and literature, to strengthen a sense of purpose among frontline health workers (FHWs). The

study assesses the implementation viability of the humanities curriculum in two different settings in Pakistan and evaluates the impact of the curriculum in enhancing sense of purpose among vaccinators and lady health workers in the study settings.

## **METHODS**

### ***Study design***

We deployed a mixed-methods study design with both quantitative and qualitative components and followed an evolutionary evaluation methodology, which emphasizes the significance of aligning evaluation strategies with the program's lifecycle phase (Urban et al., 2014). Given that our curriculum is newly designed and being implemented for the first time, this approach underscores the necessity of conducting a thorough process and outcome evaluation.

The study was conducted in two phases: The first phase focused on the development of the curriculum and selection and adaptation of measures. The second phase included implementation of the program, with continued process evaluation as well as assessment of changes in outcomes of interest.

The quantitative component involved administering the adapted character strength scale, Claremont Purpose Scale (CPS), to FHWs pre- and post-intervention. Qualitative data was collected using focus group discussions (FGDs), formative in-depth interviews (IDIs) and cognitive interviews to inform curriculum design and adaptation of the CPS scale. Additionally, IDIs were conducted with a group of randomly selected participant FHWs post-intervention.

### ***Evaluation***

We conducted process and outcome evaluation throughout the development and

implementation phases of the study. Process or implementation evaluation assesses whether program are carried out as per defined protocols (Linnan & Steckler, 2002). Outcome or effectiveness evaluation measures program's impact on the target population by examining whether the intended outcome goals were achieved (Schalock, 2001). The details of both evaluations are discussed below.

### *Process Evaluation*

We conducted comprehensive process evaluation during the development and implementation phases using both qualitative and quantitative methods. During curriculum design and modification, participant feedback was documented through focus groups discussions (FGDs) and feedback surveys. The FGDs were open-ended discussions in which selected contents of the curriculum were reviewed with participants to gather their perspectives and opinions. These discussions were audio recorded, transcribed and translated in Urdu and Sindhi, and thematically analyzed to effectively capture all participant feedback. A short, structured feedback survey was administered after each FGD, collecting feedback on session effectiveness, content relevance, session delivery, venue and overall training experience. The curriculum was then modified to address participants' feedback, concerns and suggestions received during the FGDs and feedback surveys. For instrument selection, we conducted extensive literature review to select an appropriate measurement tool, and refined and adapted it to our study through cognitive interviews, pre-testing on two potential scales, and back-translations to ensure accuracy and equivalence of translated scale.

During the implementation phase, we used three methods to assess the curriculum delivery process: post-session surveys, facilitator feedback survey, and observations by the study team. Post-session surveys involved administering short

surveys to FHWs after each training sessions, where FHWs were asked to rate the quality of the sessions, share their preferences and dislikes regarding the content, and provide feedback on the facilitators' teaching style. Additionally, the facilitator completed a feedback survey after each session rating participants' engagement levels and general performance during the session. Two members of the study team also observed the sessions, and using a structured rubric evaluated the facilitator's teaching methods, participant's engagement level and interaction, quality and frequency of participant-initiated discourses, and the overall session environment. The study team also recorded participant's attendance to assess regularity and monitor drop-out rates.

### *Outcome Evaluation*

Our primary outcome was an enhanced sense of purpose in FHWs, measured using the Claremont Purpose Scale at the beginning (baseline) and end of the eight-week training period (endline) and the three-month post-intervention follow-up period. The CPS measures three dimensions of purpose (using three subscales) which include goal-directedness, personal meaning, and beyond-the-self orientation (Bronk et al., 2018). The secondary outcomes included resilience and increased productivity, which were measured using post-intervention IDIs that aimed to gauge the sustained impact of the training.

### *Study Sites*

The study was carried out across selected towns in two districts in Sindh, Pakistan: District Korangi and District Badin. In District Korangi, the towns included were Landhi, Malir, and Shah Faisal towns and in District Badin, the targeted towns were Badin, Talhar, Tando Bago, Golarchi, and Matli. The two districts and their respective towns were chosen based on their demographic diversity, which encompass both urban

and rural areas, as well as varying levels of education and representation of various ethnicities. A comparison of the two districts is reported in Table 1.

### ***Study Population***

A sample size of 100 FHWs (50 per district) was determined for the study based on logistical feasibility, budgetary constraints, and the scope of the research objectives. To account for potential attrition, a total list of 120 FHWs (60 per district) was randomly selected using town-wise stratification to ensure representation from all towns within each district. There were a total of 443 FHWs (114 Vaccinators; 329 LHWs) deployed in District Korangi and 1137 FHWs (125 Vaccinators; 1012 LHWs) deployed in District Badin. Each district was first stratified into its constituent towns (District Korangi: 3 towns and District Badin: 5 towns) and within each town, participants were randomly selected to ensure equal representation.

From the list of 120 FHWs, we then applied the inclusion criteria which consisted of FHWs working in the study towns, consenting to participate in all sessions, and obtaining permission from their immediate supervisor for attending the training sessions. Based on these criteria, a total of 112 FHWs were recruited in the study.

All participating FHWs provided written consent. The study was approved by the Institutional Review Board of IRD (study reference number: IRD\_IRB\_2022\_08\_001).

### ***Study Procedure and Data Collection***

#### *Development Phase*

#### Humanities Curriculum

We developed a Humanities curriculum, consisting of an interdisciplinary purpose

module in close collaboration with an academic expert in Comparative Humanities from Habib University, Pakistan. The primary aim of the module was to cultivate a cadre of caregivers who not only possess the technical skills required for healthcare delivery, but also embody the moral imperatives of compassion, tolerance, and respect. Drawing insights from local literary works, art, dramas, music and poetry, the module centered on themes of personal growth, discovering purpose in one's work, cultivating discipline, and fostering societal impact. Works of renowned poets, including Faiz Ahmed Faiz, Shah Abdul Latif Bhattai, and Parveen Shakir, were included to offer lessons on resilience, solidarity, and the interconnectedness of humanity. Inclusion of drama, music and film helped engage FHWs emotionally, reinforcing teachings of empathy and understanding among them. Interactive activities like role-playing, group discussions, and reflective exercises were used to help FHWs practice communication skills and navigate interpersonal dynamics with sensitivity. The primary medium of instruction was Urdu supplemented by Sindhi, a commonly spoken regional language in Sindh province. Our overarching goal was to foster a sense of purpose, meaningfulness, and goal orientation at work, while seeking to strengthen FHWs' connection to their community, and enhancing work productivity.

The curriculum was development iteratively through feedback from all stakeholders (academic experts, study team, FHWs). All text included in the curriculum was carefully selected to maintain a balance between content relevance and linguistic accessibility of FHWs. During the development phase, we also conducted FGDs to get initial feedback from FHWs on the module. These sessions were led by the respective training facilitators at both study sites. Based on the feedback received, we simplified the language and excluded culturally and religiously sensitive topics. A total of four

FGDs were conducted with 42 FHWs: 22 in District Korangi (12 LHWs and 10 Vaccinators) and 20 in District Badin (10 LHWs and 10 Vaccinators).

We also developed a training manual based on the interactive module's purpose. The manual aims to serve as a comprehensive guide for training facilitators and equipping future facilitators with the relevant tools and methodologies for conducting effective training. It includes lessons and intended interpretations from each literary text or exercise, along with guidance on addressing sensitive topics. Further information on the curriculum and training manual is available in the supplementary resource A.

#### Claremont Purpose Scale

A contextually appropriate, multi-aspect version of the Claremont Purpose Scale (CPS) was adapted for the study. The instrument comprised 12 items with relevant response choices, divided into three subscales: goal-directedness, personal meaning, and beyond the self-orientation. The scale was validated in two local languages, Urdu and Sindhi, through a pre-testing exercise on 78 FHWs from two non-study districts and 10 students from Habib University. We conducted an Exploratory Factor Analysis (EFA) to examine the underlying factor structure of the CPS. We used principal factor analysis with oblique oblimin rotation to extract factors and retained items with factor loadings greater than 0.20. The analysis yielded four factors to be retained, comprising all the questions in the CPS, and no exclusions had to be made. These four factors explained 92.1% of the total variance. Factor 1 comprised (Q2, Q4, Q5, Q7), factor 2 consisted of (Q9, Q10, Q12), factor 3 included (Q6, Q11) while factor 4 included (Q1, Q3, Q8). The Cronbach's alpha for each factor was 0.80, 0.73, 0.73, and 0.76, respectively. Prior to EFA, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.666, indicating that the data was suitable for factor analysis. Bartlett's Test of Sphericity was

significant ( $p < .001$ ), confirming the correlation among variables.

The CPS scale was selected because of its relevance to the FHWs' scope of work and their role as community health workers. The scale comprehensively addresses the construct of purpose by incorporating the beyond-the-self dimension—an important external component of purpose (Bronk et al., 2018). Additionally, the CPS is applicable to a broader age range, making it suitable for diverse audiences. The final scale is available in supplementary resource B. High scores on the CPS indicate that participants meet all or most of the criteria for purpose, midrange scores suggest they meet some of the criteria, and low scores signify that participants meet few, if any, of the criteria for purpose. (Bronk et al., 2018).

Prior to data analysis, we assessed the psychometric properties of the CPS. Confirmatory Factor Analysis (CFA) using maximum likelihood estimation was conducted to evaluate the factor structure of the scale. The results are reported in the supplementary table xx. Based on the results, we analyzed and reported results of the three subscales of the CPS separately. Internal consistency reliability of the CPS was assessed using Cronbach's alpha. with a coefficient of 0.8591, indicating good internal consistency. Results of the CFA can be found in supplementary resource C.

### *Program Implementation*

We recruited 112 FHWs to provide an eight-week training (46 District Korangi and 53 District Badin; 13 dropped out) on the curriculum content from 9 May – 21 July 2023. There were two sessions conducted each week, and each session had an average duration of two to three hours and was conducted by two skilled facilitators across the two sites, respectively. The participants were divided into four cohorts (A, B, C, D) across the two districts for better management and to support the study's validity by

facilitating the collection of reliable and accurate data for process evaluation indicators. The training sessions consisted of discourses and participatory activities (storytelling, acting out scenarios, singing, and watching short films and documentaries) tailored based on selected texts and other media such as music, poetry, and cinema.

Training sessions in both regions were disrupted by ongoing government activities such as outreach and, polio campaigns, law and order situation, and vaccinator technical training activities resulting in gaps, absenteeism, and decreased participant engagement during the sessions. As a result of this, sessions held from 4 - 19 July 2023 had to be increased in duration to four hours (with a 30-minute break in between).

The CPS was administered to all participants at baseline, endline, and a three-month follow-up to examine the differences in three aspects: sense of purpose in work, meaningfulness, and goal orientation.

We also conducted IDIs three months post-intervention with randomly chosen FHWs who were provided the training, and their supervisors in both districts: seven FHWs (four vaccinators and three LHWs) and six supervisors in District Korangi and 11 FHWs (five vaccinators and six LHWs) and 10 supervisors in District Badin. Interviews were conducted to supplement our quantitative results with comprehensive qualitative insights on the training program and curriculum content.

We also conducted interviews with Lady Health Supervisors (LHSs) and Town Superintendents of Vaccinators (TSVs) to understand their perspective (as supervisors of FHWs) regarding any change observed in FHWs after receiving the training. Interviews were administered in person, by one program member accompanied by a note-taker. Interviews lasted up to 30 minutes in duration with both FHWs and their supervisors.

## ***Outcomes and Measures***

Our outcome variables are defined below.

### *Primary Outcomes*

#### Meaning in life (MIL)

The meaning in life concept emphasizes the significance of personal importance in life, encompassing cognitive (comprehension) and motivational (purpose) dimensions (Wong, 1998). This definition encompasses strong psychological aspects contributing to a fulfilling life, including motivational aspects (such as purpose, life goals, and needs), cognitive elements (like understanding and making sense of life), social/moral components (like responsibility, accountability, and commitment), and affective aspects (like enjoyment/evaluation and positive emotions) (Bronk et al., 2018). Therefore MIL has even been described as the ultimate source of motivation for any individual occupying a considerable role in a community (Wong, 2014). Additionally, purpose is also integral to an individual's personal exploration for meaning as an external component and inspired by the desire to make a change to the 'broader world' (*The Psychology of Purpose*, 2018).

To address meaningfulness in the study, the CPS had items (1-4) such as 'My life has a clear sense of purpose' and 'I am always searching for something that makes my life feel significant'. Response options are based on a 5-point Likert-type scale, with responses being 'not at all clear', 'a little bit clear', 'somewhat clear', 'quite clear,' and 'extremely clear'.

#### Goal-Directedness

Increasing purpose in life includes a stage where individuals choose goals and values that promote higher aims such as creativity, morality, and spirituality (Bronk et al., 2018; Schippers & Ziegler, 2019). During the emerging adult stage of life, goals often involve partaking in a broad range of life experiences rather than pursuing ideal adult roles (Schippers & Ziegler, 2019). To assess the aspect of goal orientation and directedness amongst participants, items 5-8 on CPS included components such as ‘I live one day at a time and don’t really think about the future’ (reverse coded) and ‘Some people wander aimlessly through life, but I am not one of them.’ Response options were based on a 5-point Likert-type scale ranging from ‘not at all engaged’, ‘slightly engaged’, ‘somewhat engaged’, ‘quite engaged’, and ‘extremely engaged’.

#### *Beyond-the-Self orientation*

Beyond-the-self is defined as active involvement toward objectives that are purposeful to the individual and provide to the world beyond the self (Bronk et al., 2018).

Individuals who have a self-transcending perspective are more adept at managing their negative emotions, leading to reduced experiences of anger-related feelings (Kim, 2022). Furthermore, this perspective is linked to positive personal and social outcomes. This can be visualized through task commitment, in-depth learning, staying connected and engaged with others, and prosocial behavior (Kim, 2022). To assess beyond-the-self purpose in study participants, items 9-12 in CPS had relevant statements such as ‘How often do you hope that the work that you do positively influences others?’ and ‘How often do you hope to leave the world better than you found it?’ Response options were based on a 5-point Likert-type scale ranging from ‘not at all important,’ ‘slightly important,’ ‘somewhat important,’ ‘quite important,’ and ‘extremely important.’

## *Secondary Outcomes*

### Resilience

Resilience refers to the ability to adapt and recover from adversity, challenges, or stressful situations. It is not just about enduring difficulties but also about growing stronger and learning from these experiences (Hurley, 2024). It involves self-confidence, emotional strength, problem-solving, adaptability, social support, persistence, and determination (Hurley, 2024). We measured resilience through in-depth interview responses to the question ‘Can you please describe any changes you felt in yourself since participation in the program?’

### Productivity

Productivity in the health sector can be defined as the services provided by health workers over a given period of time (Jaskiewicz & Tulenko, 2012). We investigated productivity through in-depth interviews with FHWs that occurred post-intervention, where FHWs were asked to introspect, self-acknowledge and describe the changes brought in them because of the intervention. Additionally, we posed targeted questions to both the FHWs and their supervisors to gauge any observable shifts in daily attendance, punctuality, and sense of responsibility towards the community, as well as an increase in household visits and vaccinations administered per child.

### ***Analysis***

For descriptive analysis, we employed frequencies (%) for categorical variables, and mean, standard deviation, median and interquartile range (IQR) for continuous variables. We are reporting median in tables in this paper as the data were not normally distributed. We conducted a comparative analysis on the baseline, endline, and follow-

up scores for each construct along with the median disparity between baseline, endline, and follow-up. We used a Wilcoxon signed rank test to decipher if the differences in scores were statistically significant. All quantitative analyses were performed using Stata, release SE17.0 (StataCorp, College Station, TX).

Participants' interviews, across both districts, were recorded with their consent, and the audio files were later transcribed in Urdu and Sindhi. These transcriptions were translated into English to facilitate qualitative analysis. All transcription and translations were cross-checked by different members of the study team to ensure accuracy. Two researchers utilized inductive coding techniques to thematically analyze the data, with each transcript independently coded by both researchers. The coded data were subsequently compared to ensure analytical consistency. Recurring themes were identified through thematic evaluation. All qualitative data were analyzed using Nvivo 14.

## **RESULTS**

### ***Participant Characteristics***

Our analytic sample consisted of 104 FHWs; whose median age was 44.2 years (IQR= 35.2-52.2) (Table 2). The participants had a median education of 12 years (IQR=10-14), and their work experience ranged from 15.5 years to 18 years (IQR=5-22.5). Most of the FHWs were the breadwinners in their households and earned a monthly income range of PKR 30,000 - 40,000. In District Korangi, 68.6% (35/51) FHWs reported working three to six hours per day while in District Badin 75.4% (40/53) reported working seven to 10 hours a day. Furthermore, 52.8% (55/104) of FHWs in both District Korangi and District Badin reported visiting between zero to 12 houses per day.

### ***Process Evaluation Results***

From the original sample of 112 participants, 99 participants (88.4%) successfully completed the training, while 13 participants (11.6%) withdrew due to personal circumstances. Among the 99 participants who completed the training, 37 participants (37.3%) attended all 16 sessions. Session engagement was high, with each FHW on average, participating and engaging in discussion 26 times during the training sessions (at least two times per session). The participants maintained an average attendance of >80% throughout the sessions. All FHWs provided positive verbal and written feedback consistently throughout the eight weeks. Participants rated the sessions highly in terms of the curriculum content (mean: 9.3/10; standard deviation (SD): 1.13), session delivery (mean: 9.5/10; SD: 1.02), and overall success of the sessions (mean: 9.4/10; SD: 0.87). They acknowledged that the training program greatly contributed to enhancing and instilling a stronger sense of purpose in their lives. One FHW said, ‘We should regularly have such training where we not only learn different things but are also reminded about our responsibilities’. Similarly, the facilitators gave an average rating of 8.9/10 for participants’ level of responsiveness for all sessions.

### **Outcome Evaluation Results**

Table 3 shows the comparison of CPS Scores of FHWs administered baseline, endline and three months follow-up. We observed a 5 point increase in the sense of purpose, as indicated by the median scores on the CPS, across both District Badin and District Korangi from baseline to endline (Baseline: 48; IQR=42-52 vs Endline: 53.5; IQR=49-58 ( $p<0.001$ )) and from baseline to follow-up (Baseline: 48; IQR=42-52 vs Follow-up: 53; IQR 48-57 ( $p<0.001$ )). The scores of the subscales are reported in the following sub-sections.

### *Meaningfulness*

Our study revealed a noteworthy increase in perceived meaningfulness, as evidenced by median score changes from baseline to endline (Baseline: 15.5; IQR=14.0-17.0 vs Endline: 17.0; IQR=15.0-20.0 ( $p<0.001$ )) and from baseline to follow-up (Baseline: 15.5; IQR=14.0-17.0 vs Follow-up: 17.0; IQR 15.0-19.0 ( $p<0.001$ )). A significant improvement of 1.5 points was observed in both baseline to endline and follow-up assessments, ( $p\text{-value} \leq 0.05$ ).

### *Goal-directedness*

Similarly, for goal directedness, the median scores demonstrated a consistent increase by 2 points across baseline, end line, and follow-up assessments (Baseline: 16.0; IQR=14.0-18.0 vs Endline: 18.0; IQR 16.0-20.0 vs Follow-up: 18.0; IQR 16.0-19.0 ( $p<0.001$ )).

### *Beyond-the-Self*

Examining the median scores of the beyond-the-self subscale, a substantial increase of 2 points was consistently observed across baseline, endline, and follow-up assessments (Baseline: 16.0; IQR=14.0-18.0 vs Endline: 18.0; IQR 17.0-20.0 vs Follow-up: 18.0; IQR 16.0-19.0 ( $p<0.001$ )).

## *In-depth Interviews with FHWs*

### *Feedback and experience*

Most FHWs (83%; 15/18) provided positive reviews regarding the content, emphasizing that during and after the sessions, they were reminded that through hard work, they can ‘achieve success once again’ and make a significant difference in the community (50%; 9/18). Moreover, many FHWs also mentioned how the topics discussed during the sessions were progressive because they went beyond their daily learning experiences and focused on developing various psycho-social skills needed to help them progress as both human beings and healthcare providers. One participant said:

‘The most positive thing about this training was that the topics were based on real-life experiences. In all the other pieces of training we receive, we are asked to memorize books only.’ (IDI-6)

The participants also expressed gratitude for the incorporation of nostalgic poems and songs during the sessions. The participants further highlighted that by focusing on elements of cultural significance, this training helped them cultivate empathy, develop counselling skills, and effectively resolve conflicts, thereby fostering a sense of ‘connection and familiarity’ among the participants, and enhancing their overall learning experience.

All 18 FHWs from the selected sample of participants appreciated the trainer’s amiable and approachable teaching style. They said that the learning environment was supportive and ‘open’. The ‘welcoming environment’ suggests that inclusivity and respect were fostered throughout the sessions. Clear and understandable explanations contributed to participants’ comprehension and engagement.

‘The trainer’s teaching style was very friendly, and the environment was welcoming. The other participants also made the environment conducive to learning, and the trainer was quite open and explained everything correctly without getting tired.’ (IDI-3)

Furthermore, FHWs particularly praised the trainer’s patience and empathetic approach to content delivery. They appreciated the trainer’s ‘genuine’ desire to ensure understanding among participants, regardless of their varying levels of comprehension, contexts, and backgrounds. FHWs (11%; 2/18), specifically from the rural setting, experienced discomfort at the training venue due to hot weather and limited resources. However, they highlighted that despite these challenges, they fully benefited from the training, owing to the accommodating facilitator, and therefore their learning was not hampered. They also found the curriculum to be unique, and it paved the way for them to learn novel skills beyond technical tasks. As one participant claimed:

‘This training felt quite different from our previous training; it reflects a mindset influenced by a perspective that is 20 years into the future.’ (IDI-16)

A few FHWs (39%; 7/18) shared some limitations of the training. The afternoon session proved challenging for some participants, as they expressed that a morning slot would have been preferable. They mentioned having pending work to complete the next day and coming into the training after work left them feeling tired (22%; 4/18) and facing discomfort at the training venue (17%; 3/18) hindered their learning. Some FHWs (28%; 5/18) from rural settings, despite being proficient in the Sindhi language and primarily serving Sindhi-speaking individuals, expressed a preference for the curriculum to be in Urdu.

‘Although I work in Badin, which is predominantly Sindhi-speaking, and can communicate well, I still struggled to understand complex words in the curriculum because I am not a native Sindhi speaker.’ (IDI-16)

They did mentioned, however, benefiting from the sessions and expressed their interest in having these sessions as a recurring component in their work life. Another participant said:

‘Our training was excellent. The other participants also made it very interesting to learn. There should be more training sessions like this in the future.’ (IDI-11)

#### *Impact of the training program*

FHW’s feedback provides comprehensive insights into the effectiveness of the training sessions aimed at enhancing their sense of purpose at work. FHWs highlighted the patience instilled in them by the training, which subsequently led to a positive effect on their work productivity. They acknowledged that the lessons learned during the sessions emphasized the futility of losing their temper and the importance of understanding others' perspectives in conflict-oriented situations. They now not only strive to avoid anger but also try to empathize with others, including community members or anyone else involved in conflicts.

‘We learned that there is no use in getting angry. Now not only do we avoid it, but we also try to understand others, whether they are community members or anyone else. We try to explain that there is more harm than good.’ (IDI-8)

They further reported being able to regulate their emotions better. One participant mentioned that compared to getting ‘emotional’ quickly over a difficult client earlier, they can control their anger better now. They said:

‘It is human nature that if someone (client) keeps bombarding you with questions you might get a bit annoyed. But that aspect has pretty much improved a lot. I don’t get easily angry anymore.’ (IDI-7)

Some lady health workers (LHWs), specifically from the urban setting, described the scepticism they encountered surrounding the nature of their work, particularly their household visits, and how its legitimacy is often questioned among family members and close relatives. Rooted in the prevalent socio-cultural set-up, people often question the necessity of ‘unmarried women’ going door-to-door and meeting people. This discourse underscored the unique challenges faced by LHWs in their roles, including navigating societal perceptions and attitudes towards their work. One LHW (IDI-11) expressed:

‘In our families, there's often scepticism about the nature of this work, going to every household and meeting people. There's questioning about whether unmarried girls are involved and whether this constitutes a legitimate job.’

Despite encountering bias regarding gender roles, the LHWs reported that the training sessions reminded them of their self-worth. Another LHW stated:

‘I am proud of the fact that no one can accuse me of living off my parents' earnings or being financially dependent on my brother.’ (IDI-9)

Most of the FHWs (83%; 15/18) found the training relevant to their job. About 78% (14/18) said they could utilize their learnings in real-life situations, especially in changing their thoughts, ‘behavior, and attitudes towards their role. After the training, the FHWs reported that the sessions had made them more empathetic towards other people, instilling patience, and showing interest in understanding their concerns.

‘When I meet and talk to people, it feels like they are more distressed than I am. After hearing the stories of people in the field, I start feeling for them and caring for their well-being’.

FHWs also mentioned feeling more self-assured and able to overcome obstacles and pursue their goals with determination, because of the training intervention.

‘I’ve gained enough knowledge that regardless of what anyone says, I’m determined to work and do better. The lingering hesitation has vanished, and I feel confident.’ (IDI-1)

The training assisted FHWs in understanding and fostering stronger connections with their communities as mentioned by one participant:

‘I have noticed a positive shift in my communication style when we speak to my colleagues and clients.’ (IDI-7)

Another participant, realizing the impact of their behavior and actions on others said:

‘When we went for training, we learned how to communicate properly, and afterward, our listening skills greatly improved. Now, when someone says, ‘Sit down, let’s talk,’ we listen patiently because we’ve developed the ability to understand what they’re saying.’ (IDI-17),

The feedback also highlighted the enhancement of altruistic tendencies and ‘behavior among the FHWs post training sessions. One individual expressed a selfless commitment to prioritizing the needs of others over personal interests (IDI-9). This ‘change’ in mindset underscored the noble and often challenging nature of frontline healthcare work, where individuals regularly put the needs of others before their own for the greater good. The participant said:

‘I don’t do what I do for myself; I do it all for others.’

### *Suggestions/Areas for improvement*

The primary recommendations conveyed by the FHWs included having similar training more consistently (77%; 14/18) and scheduling them on a morning slot when they feel more mentally active (22%; 4/12). Many FHWs also felt that it was important for all LHWs and vaccinators to eventually become a part of this type of training so they can develop professionally and personally in a similar manner, improving overall community service. A participant specifically expressed the desire for training sessions to include topics related to morality and values, as these are crucial aspects that have a significant connection to their work (IDI-6).

### ***In-depth Interviews with Supervisors (LHSs/TSVs)***

The LHS and TSV were thoroughly briefed on the details of the training program. They mentioned engaging in regular discussions with their respective Lady Health Workers (LHWs) and vaccinators participating in the training, covering various aspects of the training sessions. The supervisors were notably impressed by the evident enthusiasm displayed by the FHWs in consistently attending these sessions. They emphasized their meticulous observations of the FHWs' performance on a daily and weekly basis, noticing subtle yet significant improvements in their professional demeanour and overall work ethic.

One significant observations made by supervisors in both districts was the enhanced knowledge of FHWs regarding the non-technical aspects of their fieldwork, demonstrated through improved communication, greater empathy with clients, conflict resolution and emotional regulation. According to 54% (7/13) of respondents, the diverse topics discussed during the sessions were directly relevant to the FHWs' current work scope, real-time issues and experiences, making the training more pertinent and

informative for them. Supervisors also reporting observing an increase in FHWs' confidence levels and an improved understanding of their responsibilities. Specifically, a TSV noted positive 'behavioral changes among trainee vaccinators towards both clients and colleagues. The TSV reported an evident improvement in FHW 'behavior, including anger management and more flexibility in learning and adopting new practices aimed at enhancing their work experience. He said:

'Their 'behavior has improved, there's better control of anger, and many people are coming with a lot of new things to make their work experience better.' (IDI-23)

Majority (77%; 10/13) supervisors also observed improvements in FHW's emotional awareness, noting that FHWs are now more aware of their own emotions and those of others. They mentioned that the workers also demonstrate a better ability to regulate their emotions during interactions with clients, in contrast to previous instances where they occasionally struggled to maintain composure. One LHS mentioned:

'My girls used to show worry on their faces before. Now they can handle emotional situations well [sic]. They have realized that acting impulsively can only cause more difficulty for them.' (IDI-28)

One LHS talked about how post-training, LHWs seem to have more knowledge about counseling clients and are eager to apply these learning to their daily work routine. She emphasized that by acquiring 'counseling skills', LHWs are better equipped to provide empathetic support, offer guidance, and facilitate behavior change among their clients, especially during home visits. Another LHS appreciated the content delivery method noting that visual and experiential learning methods facilitated better knowledge retention. She said:

'Because something we read, we tend to forget, but when it's presented in the form of a drama or a movie, things stick in our minds, we remember.' (IDI-29)

She believes improved content retention has also contributed to increased productivity among LHWs.

The supervisors also observed a significant shift in the participants' understanding and handling of their responsibilities after attending the training sessions. One TSV from district Korangi said:

'They used to meet their monthly targets even before the training session, however, one responsibility that perhaps they didn't fully grasp before, they are now seen handling it with some understanding, managing their responsibilities quite well.'

(IDI-25)

## **DISCUSSION**

We found a humanities curriculum to be a feasible and viable solution for enhancing a sense of purpose among FHWs serving diverse communities in Sindh, Pakistan. We observed a 5-point increase in FHWs' sense of purpose after receiving the humanities training. Our findings underscore the importance of integrating humanities-based approaches to FHW training to improve their work ethic, professional capabilities and personal development, contributing to their overall well-being. They also serve as evidence for the curriculum's potential to positively transform healthcare service delivery at the frontline.

We observed an increase in FHW's purpose scores after they received training on the humanities curriculum, particularly in the three dimensions of purpose: perceived meaningfulness, goal directedness, and beyond-the-self orientation. Our findings align with a growing body of evidence that supports the positive impact of humanities-based interventions on human flourishing (Morera Serna, 2018; Pawelski, 2022). In addition to healthcare, the effectiveness of humanities-based character education has also been

demonstrated among students in a meta-analysis, leading to higher levels of educational outcomes in addition to expressions of love, integrity, compassion, and self-discipline (Jeynes, W, 2018). In healthcare, cultivating character, such as empathy, compassion, sense of purpose, and meaning, is at the core of effective medical care and the well-being of both providers and patients (Andre et al., 2003; Chen et al., 2023; Friedman, 2002; Post & Wentz, 2022). Engaging with humanities facilitates the creation and promotion of character among individuals by fostering an acceptance of uncertainty, complexity, and mindfulness (Dumitru, 2019; Gerard, 2021; González-Arias & Swain, 2024; J. Noordman, 2019; Po-Jui Chen, 2017; Xin Zhang, 2023; Yang, 2013). This is crucial for navigating a dynamic healthcare environment and discovering deeper meaning and purpose in one's work, beyond mere achievement of measurable skills or targets (Gerard, 2021). Despite the recognized role of humanities in promoting physical and mental well-being, and purpose as a crucial component of well-being, there remains a scarcity of evidence regarding the impact of humanities training on enhancing a sense of purpose among health workers. Our previous research on training LHWs on a humanities curriculum did measure purpose as a construct, yet no significant improvements were observed in purpose scores among the participants (Siddiqi et al., 2022). To the best of our knowledge, the findings of this study are the first of its kind to establish evidence for the link between a humanities curriculum's efficacy and fostering a sense of purpose among FHWs.

FHWs appreciated the innovative content and interactive teaching methodologies used to deliver the training curriculum. Using literature, philosophy, music, and arts has been proven in scientific literature to nurture self-reflection, enhance critical thinking and improve psychological well-being (Bhagat et al., 2024; Dumitru, 2019; Fancourt & Finn, 2019; González-Arias & Swain, 2024; Hakemulder, 2015;

Swindells et al., 2013). Incorporating local texts and literature into our curriculum significantly deepened our participants' connection to the material through stories, poems, and folklore rooted in their cultural upbringing. Participants unanimously praised the facilitator's approachable and empathetic teaching style, which contributed to a sense of openness and respect throughout the sessions. The use of interactive teaching methods has proven to be effective for creating a two-way conducive atmosphere and active engagement as well as better comprehension and retention of the training content (Azaz Khan, 2023). By delivering the curriculum in the prevalent local languages (Sindhi in rural areas and Urdu in urban settings), we further enhanced relatability and accessibility of our curriculum.

FHWs in our study reported that the training helped them develop increased patience and empathetic understanding of the communities they serve, leading to deeper connections with community members. Recognizing the value and impact of their work boosted FHWs' confidence and enhanced their ability to navigate complex and challenging situations. This, in turn, fostered a renewed sense of meaning and purpose, in FHW's work. Findings from similar research support our results, demonstrating a link between meaning in work and wellness, emphasizing internal motivators, and using character strength training to improve health worker productivity and performance (Azaz Khan, 2023; Huber et al., 2020; Khan et al., 2019; Xie et al., 2020). For example, a formative study in India qualitatively assessed the feasibility of a character strength coaching and found the training to positively impact community health workers ability to manage work-life struggles and improve productivity (Azaz Khan, 2023). The uniqueness of our findings lies in our mixed-method approach, providing evidence for enhancing a sense of purpose among different cadres of FHWs in both rural and urban settings to improve their work performance and well-being.

Our study has several implications for research and policy. From a policy perspective, our study emphasizes the need to integrate humanities-based training into existing FHW curriculum. This integrating should be accompanied by robust monitoring and evaluation mechanisms, establishment of a professional development network for FHWs, and allocation of resources to sustain and expand training initiatives. Immediate implementation of these policy options is essential for strengthening FHWs' effectiveness and resilience in navigating challenges and delivering high-quality healthcare at grassroots levels. Further research is warranted to explore the long-term sustainability of these interventions among different cadres of FHWs, in diverse settings. Future studies should also look at the broader impact of incorporating a humanities-based training approach for FHWs on the health outcomes of the communities they serve.

### ***Limitations***

Our study has certain limitations. Our small sample size was relatively small (n=112). A few FHWs dropped out of our study, reducing our analytical sample size and impacting the broader generalizability of the findings. However, given that this was a pilot study, the small sample size does not diminish the significance of our findings. We also faced unanticipated interruptions and gaps during the intervention which extended the session duration, potentially impacting participants' learning and knowledge. We ensured that additional session time was used strategically to review missed content and provide supplementary materials, thereby minimizing disruption to the overall learning experience. Furthermore, the diverse geographic dynamics between the urban (District Korangi) and rural (District Badin) sites introduced contextual variations that were not explicitly accounted for in the analysis, potentially impacting the interpretation and

applicability of the results. Despite these limitations, the novel aspect of our study investigating humanities-based training approaches to incorporate a sense of purpose among FHWs provides insightful understanding of character strengths that can be utilized to improve overall well-being and effectiveness of FHWs. Considering the limited research on purpose among FHWs, our pedagogical framework of providing humanities-based training may be useful in instructing techniques of service delivery structures.

Lastly, it is worth noting that this study was designed as a pilot and employed a single-group approach, which, while suitable for preliminary evaluations, lacks the experimental control of a rigorous randomized controlled trial (RCT). As such, potential confounders influencing the results cannot be ruled out. Future research using a robust RCT design is recommended to validate these findings and establish causal relationships more definitively.

## **CONCLUSION**

A humanities-based training program for healthcare workers was well-received, associated with a deeper sense of purpose, as well as improved self-regulation, communication and listening skills. Participants reported significant improvements in all three dimensions of purpose: meaningfulness, goal directedness, and beyond-the-self orientation. These findings support the integration of humanities-based curriculum into FHW traditional training. This holistic training approach not only focuses on the emotional, spiritual, and cultural dimensions of individuals but also helps in inculcating resiliency which strengthens the FHWs resolve to deal with the challenges that are natural to their work. By fostering a deeper sense of purpose, this training equips FHWs to engage empathetically with clients, enhancing both provider and patient well-being.

The curriculum's adaptability suggests its potential application to other cadres of health professionals, offering a broader strategy to enhance well-being and patient-centered care within the healthcare system.

#### **SUPPLEMENTAL DATA**

Supplemental data for this article is provided in supplementary resource A, B and C.

#### **DATA AVAILABILITY STATEMENT**

De-identified participant data are available to any researcher under reasonable request.

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## Strengthening character virtues among frontline health workers delivering care to underserved communities in Sindh, Pakistan

Table 1: District Profile for District Korangi and Badin, Sindh province Pakistan

	<b>District Korangi</b>	<b>District Badin</b>
Towns	Landhi, Malir, and Shah Faisal towns	Badin, Talhar, Tando Bago, Golarchi, and Matli
Area	108 Km <sup>2</sup>	6700 Km <sup>2</sup>
Population	2.5 million	1.8 million
Health Facilities	275 health facilities	49
Vaccinators	593	114
LHWs	150	1,105
Literacy Rate	80.10%	33.60%
Infant mortality rate	40%	87%
Under-five mortality	10.1%	48%

Table 2: Demographic features of Frontline Health Workers who engaged in an interactive purpose module administered from May 9, 2023-July 21, 2023 (N=104^)

	District Korangi (n=51)		District Badin (n=53)		Total	
	n	%	n	%	n	%
<b>Age (years)</b>						
24-29	7	13.7	2	3.7	9	8.6
30-35	6	11.7	8	15.0	14	13.4
36-41	4	7.8	15	28.3	19	18.2
42-47	7	13.7	12	22.6	19	18.2
48-53	9	17.6	10	18.8	19	18.2
54-59	15	29.4	6	11.3	21	20.1
Missing values	3	5.8	0	0.0	3	2.8
<b>Marital Status</b>						
Married	34	66.6	46	86.7	80	76.9
Single	5	9.8	6	11.3	11	10.5
Widowed	7	13.7	1	1.8	8	7.6
Divorced	3	5.8	0	0.0	3	2.8
Missing Values	2	3.9	0	0.0	2	1.9
<b>*Monthly Household Income</b>						
\$ 71-107	2	3.9	9	16.9	11	10.5
\$ 108-142	26	50.9	25	47.1	51	49.0
\$ 143-178	4	7.8	8	15.0	12	11.5
>\$ 178	19	37.2	11	20.7	30	28.8
<b>Primary Earner(s) in the Family†</b>						
Sibling	9	17.6	0	0.0	9	8.6

Father	2	3.9	2	3.7	4	3.8
Husband	14	27.4	7	13.2	21	20.1
Self	41	80.3	43	81.1	84	80.7
Other	4	7.8	0	0.0	4	3.8
Missing values	0	0.0	2	3.7	2	1.9
<b>Primary Earner's Occupation†</b>						
Daily Wages	1	1.9	0	0.0	1	0.9
Government (Clerical)	2	3.9	0	0.0	2	1.9
LHW	22	43.1	20	37.7	42	40.3
Private Sector (Clerical)	1	1.9	0	0.0	1	0.9
Private Sector (Executive)	4	7.8	0	0.0	4	3.8
Self Employed	2	3.9	2	3.7	4	3.8
Teacher	0	0.0	3	5.6	3	2.8
Vaccinator	19	37.2	27	50.9	46	44.2
Other	4	7.8	0	0.0	4	3.8
Missing values	0	0.0	1	1.8	1	0.9
<b>Ethnicity</b>						
Balochi	3	5.8	0	0.0	3	2.8
Pakhtun	1	1.9	0	0.0	1	0.9
Punjabi	1	1.9	5	9.4	6	5.7
Sindhi	1	1.9	47	88.6	48	46.1
Urdu Speaking	45	88.2	1	1.8	46	44.2
<b>Spoken Languages†</b>						
Balochi	3	5.8	1	1.8	4	3.8
Pashto	2	3.9	0	0.0	2	1.9
Punjabi	3	5.8	7	13.2	10	9.6

Sindhi	5	9.8	52	98.1	57	54.8
Urdu	50	98.0	34	64.1	84	80.7
Missing values	1	1.9	0	0.0	1	0.9
<b>Cellphone Access</b>						
Yes	50	98.0	53	100.0	103	99.0
No	0	0.0	0	0.0	0	0.0
Missing values	1	1.9	0	0.0	1	0.9
<b>Type of Cellphone</b>						
Smartphone	42	82.3	37	69.8	79	75.9
Keypad phone	7	13.7	13	24.5	20	19.2
Missing values	2	3.9	3	5.6	5	4.8
<b>Computer Access</b>						
Yes	13	25.4	3	5.6	16	15.3
No	36	70.5	48	90.5	84	80.7
Missing values	2	3.9	2	3.7	4	3.8
<b>Internet access</b>						
Yes	38	74.5	15	28.3	53	50.9
No	12	23.5	33	62.2	45	43.2
Missing values	1	1.9	5	9.4	6	5.7
<b>Mode of Transport to Work†</b>						
Bus	11	21.5	2	3.7	13	12.5
Car	7	13.7	20	37.7	27	25.9
Motorecycle	3	5.8	5	9.4	8	7.6
On-foot	23	45.1	11	20.7	34	32.6
Rickshaw	5	9.8	3	5.6	8	7.6
Other	2	3.9	0	0.0	2	1.9

Missing values	1	1.9	14	26.4	15	14.4
<b>Types of Training Received†</b>						
Antenatal care	11	21.5	22	41.5	33	31.7
Deworming	17	33.3	10	18.8	27	25.9
Family Planning	18	35.2	18	33.9	36	34.6
Nutrition	10	19.6	14	26.4	24	23.0
Soft Skills	3	5.8	6	11.3	9	8.6
Vaccination	30	58.8	43	81.1	73	70.1
Other	1	1.9	7	13.2	8	7.6
Missing values	10	19.6	2	3.7	12	11.5
<b>Average Daily Working Hours</b>						
0-6 hours	35	68.6	12	22.6	47	45.1
7-10 hours	13	25.4	40	75.4	53	50.9
11-14 hours or more	1	1.9	0	0.0	1	0.9
Missing values	2	3.9	1	1.8	3	2.8
<b>Average Number of Houses visited per day</b>						
0-12 houses	23	45.1	32	60.3	55	52.8
13-23 houses	3	5.8	5	9.4	8	7.6
4-34 houses	1	1.9	7	13.2	8	7.6
35-45 houses	0	0.0	7	13.2	7	6.7
46 or more houses	0	0.0	1	1.8	1	0.9
Missing values	24	47.0	1	1.8	25	24.0
	<b>Median</b>	<b>IQR</b>	<b>Median</b>	<b>IQR</b>	<b>Median</b>	<b>IQR</b>
<b>Age (years)</b>	45.0	32.3-54.3	41.9	38.4-48.5	44.2	35.2-52.2
<b>Education (years)</b>	12.0	10.0-14.0	12.0	10.0-14.0	12	10.0-14.0

<b>Work Experience (years)</b>	15.5	5.0-22.5	18.0	12.0- 22.0	18.0	10.0-22.0
<b>Monthly Household Income (PKR)</b>	36,300	35,000-60,000	35,000	32,000-41,000	36,000	34,300-42,000

† Multiple responses allowed

^Total participants were 112 however 8 participants dropped out before the first session

\*Exchange rate: 1 USD=PKR280

Table 3: Claremont Purpose Scale Scores of Frontline Health Workers (FHWs) administered between May 8, and October 26, 2023, at baseline, endline and three months post intervention follow-up exercise (n= 84†)

	<b>Baseline</b>	<b>Endline</b>	<b>3 Month Follow-Up Scores</b>	<b>Baseline-Endline</b>		<b>Baseline-Follow-up</b>		<b>Endline-Follow-up</b>	
	<b>Median (IQR)</b>	<b>Median (IQR)</b>	<b>Median (IQR)</b>	<b>Median Difference</b>	<b>p-value*</b>	<b>Median Difference</b>	<b>p-value*</b>	<b>Median Difference</b>	<b>p-value*</b>
<b>Claremont Purpose Scale<sup>^</sup></b>	48.0 (42.0-52.0)	53.5 (49.0-58.5)	53.0 (48.0-57.0)	5.5	<0.001	5	<0.001	0.5	0.218
<b>Meaningfulness<sup>a</sup></b>	15.5 (14.0-17.0)	17.0 (15.0-20.0)	17.0 (15.0-19.0)	1.5	<0.001	1.5	<0.001	0	0.886
<b>Goal orientation<sup>a</sup></b>	16.0 (14.0-18.0)	18.0 (16.0-20.0)	18.0 (16.0-19.0)	2	<0.001	2	<0.001	0	0.277
<b>Beyond the self<sup>a</sup></b>	16.0 (14.0-18.0)	18.0 (17.0-20.0)	18.0 (16.0-19.0)	2	<0.001	2	<0.001	0	0.127

\*p-values obtained using the Wilcoxon signed rank test

<sup>^</sup>Score out of 60

<sup>a</sup>Score out of 20

†The initial dataset encompassed 104 observations at the baseline, while the endline dataset comprised 94 observations, and the follow-up dataset consisted of 89 observations. The variation in the numbers is attributed to the dropout rate and absenteeism of participants during the endline and follow-up surveys. It is noteworthy that the analysis has been conducted on a consistent set of observations throughout all phases of the study.