Research Letter

Working Conditions Predict Turnover Among Medical Assistants

A Prospective Cohort Study

Unfavorable psychosocial working conditions and turnover are widespread in the healthcare system, and these issues were exacerbated by the COVID-19 pandemic. Medical assistants (MA) form the largest occupational group in outpatient care in Germany. MA report adverse working conditions, a strong desire for work-related changes, and often the intention to leave their occupation (1, 2). In contrast to the intention to leave (ITL), turnover from the profession provides information about who actually is no longer available for the respective profession. Current data on the incidence of turnover among MA are lacking. Prospective studies on psychosocial working conditions as predictors of turnover in healthcare professions are scarce, date from the early 2000s, focus mainly on inpatient settings, and do not include the occupational group of MA (3). We therefore examined prospectively, for the first time, whether and to what extent psychosocial working conditions and the desire for work-related improvements predict occupational turnover from the MA profession.

Methods

We used self-reported data from a 4-year MA cohort study in Germany and took advantage of various channels of communication to invite MA in training or with completed training to fill out the baseline questionnaire (2016/2017) (1). Of the 944 MA who participated in this initial survey, 887 reported current employment as MA. The follow-up questionnaire (2021) was completed by 537 MA (56.9%). At baseline we assessed: A) psychosocial working conditions, using the 17-item effort–reward imbalance questionnaire (ERI) (i.e., effort, reward, and their ratio) and an MA-specific questionnaire with 29 items categorized into seven subscales *(Table 1)* (1), and B) desired work-related changes, using a 12-item questionnaire with three subscales *(Table 1)* (2).

At follow-up, participants reported whether they still worked as a MA (n=408) or were employed elsewhere, but not as a MA (n=48), which was used to operationalize turnover (no/yes). Those who were unemployed, in retirement, or on parental leave were excluded from analysis. Associations of working conditions and desired work-related changes at baseline (continuous variables [z-scores]) with subsequent turnover were calculated using multivariable log-binomial regressions yielding relative risks (RR) and 95% confidence intervals.

Results

At follow-up (mean = 4.40 years, standard deviation [SD] = 0.10), 48 of 456 participants reported they had left

Table 1	
Baseline characteristics of the study population (n=456)	
Characteristics [potential range]	**n (%)**
Female	449 (98.46)
Level of education*1	
Low	29 (6.40)
Intermediate	345 (76.16)
High	79 (17.44)
	Mean (SD)
Age	41.38 (10.54)
Work experience (in years)	19.04 (11.02)
Effort–reward imbalance (ERI)*2	
Effort [6–24]	18.53 (3.24)
Reward [11–44]	28.44 (5.99)
ERI ratio	1.26 (0.42)
Factors in MA*4-specific working conditions*2	
High workload [6–24]	17.39 (4.32)
Low control over work [6–24]	21.17 (2.79)
Poor collaboration [4–16]	8.31 (2.87)
Low appreciation [4–16]	11.46 (2.69)
Poor office organization [3–12]	6.56 (2.06)
Lack of resources [3–12]	4.64 (1.74)
Poor leadership behavior [3–12]	8.07 (2.32)
Factors in desire for work-related change*2	
Working conditions [0–5]	2.61 (1.54)
Reward from superior [0–3]	2.04 (1.08)
Task-related autonomy [0–4]	1.00 (1.15)

*1 Low: secondary school qualification ('*Haupt-/Volksschulabschluss*'); intermediate: secondary school level I certificate ('*Mittlere Reife*'); high: general qualification for university entrance ('*Abitur*') or entrance qualification limited to universities of applied sciences ('*Fachhochschulreife*')
*2 For each factor a sum score was calculated, with a higher score corresponding to stronger agreement with the stressor
ERI ratio, (Effort*11)/(Reward*6); MA, medical assistant; SD, standard deviation

the occupation. Baseline characteristics are shown in *Table 1*. We found that especially psychosocial working conditions and the desire for work-related changes with regard to interpersonal factors (e.g., poor collaboration, need for reward from superiors [appreciation, payment]) predict turnover (relative risk, RRs ≥ 1.33) *(Table 2)*. Psychosocial working conditions and the desire for work-related changes regarding work demands and resources (e.g., high workload, low control over work) were associated with leaving the occupation to a lesser extent.

Table 2

Predictors of turnover from the profession of medical assistant (MA) (log-binomial regression).

Characteristic	Adjusted model[1] RR [95% CI], p-value
ERI model	
Effort (high)	1.13 [0.85; 1.51], 0.39
Reward (high)	0.73 [0.55; 0.97], 0.03
ERI ratio	1.27 [0.99; 1.62], 0.06
MA-specific instrument	
Workload (high)	1.23 [0.92; 1.63], 0.17
Control over work (low)	1.14 [0.84; 1.56], 0.41
Collaboration (poor)	1.33 [1.03; 1.71], 0.03
Appreciation (low)	1.21 [0.91; 1.61], 0.19
Office organization (poor)	1.12 [0.86; 1.46], 0.40
Resources (lack of)	1.47 [1.19; 1.82], 0.001
Leadership (poor)	1.42 [1.05; 1.90], 0.02
Desire for work-related change	
Working conditions	1.30 [0.97; 1.73], 0.05
Reward from superior	1.45 [1.05; 1.99], 0.03
Task-related autonomy	1.04 [0.79; 1.36], 0.73

[1] Adjusted for age and level of education.
Unadjusted estimates (not shown) would be similar to the adjusted estimates; CI, confidence interval; ERI, effort–reward imbalance questionnaire; ERI, (effort*11)/(reward*6); RR, relative risk; all variables are z-score transformed; interpretation guide: for each increase of the poor leadership scale by 1 SD (1 SD = 2.32, see *Table 1*) the risk of turnover from the MA profession increases by 42% (RR = 1.42).

Discussion

We found that especially interpersonal factors in the workplace predict turnover among MA. This may be because a) MA usually work in small teams and personal relationships have a high value in small organizations (4), b) MA are relatively dependent on their supervising physician (who may also be their employer), and c) there may be less chance of avoiding interpersonal conflict and there is no formal contact person to turn to in the event of problems.

The strengths of this study are the prospective design and the fact that turnover was assessed as actually leaving the occupation of MA, rather than the intention to leave or leaving the employer. A limitation is the self-selected sample, which does not guarantee representativeness. Moreover, the baseline survey took place before the COVID-19 pandemic. The working conditions of individual MA may have changed. A prospective study with an initial survey after the COVID-19 pandemic and with repeated measurements at short intervals might provide more precise insights into the underlying mechanisms. To reduce the likelihood of turnover and aggravation of the existing MA shortage, future research (e.g., qualitative studies) should explore potential intervention strategies. Based on our results, a promising starting point is to strengthen supervisors' leadership skills. This seems relevant because a study of staff in primary-care physicians' offices found that office leaders rated their management skills higher than did the office employees (5). Leadership skills can be enhanced by appropriate training sessions in the curricula of medical schools and throughout working life (effective communication, display of appreciation). Moreover, collaboration within the team might be improved by regular team discussions among the MA and in the entire team.

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Conflict of interest statement
AL has presented findings related to the health and working conditions of medical assistants at meetings or workshops of professional associations or companies (e.g., ABF-Synergie GmbH) and has received honoraria.

The remaining authors declare that no conflict of interest exists.

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